

حمل الآن

مجاناً وحصرياً

المراجعة رقم (1)

اختبار شهر اكتوبر



Important questions on unit one

From the directorates' exams



First Multiple choice questions

- 1 If $\frac{x}{20} = \frac{3}{4}$, then $x = \dots\dots\dots$ (El-Mokattam - Cairo 25)
 (a) 5 (b) 10 (c) 15 (d) 30

- 2 If $\frac{1}{2} = \frac{3}{x-2}$, then the value of x equals $\dots\dots\dots$ (El-Obour - El-Kalyoubia 25)
 (a) 8 (b) 6 (c) 2 (d) 4

- 3 If $\frac{3}{2} = \frac{9}{b+1}$, then $\frac{1}{5}b = \dots\dots\dots$ (Rashid - El-Beheira 25)
 (a) 5 (b) 10 (c) 25 (d) 1

- 4 Which of the following represents proportionality ? (El-Gomrok - Alex. 25)
 (a) $\frac{3}{15} \stackrel{?}{=} \frac{2}{4}$ (b) $\frac{15}{35} \stackrel{?}{=} \frac{5}{7}$ (c) $\frac{15}{35} \stackrel{?}{=} \frac{3}{7}$ (d) $\frac{3}{9} \stackrel{?}{=} \frac{6}{12}$

- 5 The third proportional to the values : 2 , 5 , ... , 15 is $\dots\dots\dots$ (Abu El-Nomros - Giza 25)
 (a) 6 (b) 30 (c) 25 (d) 45

- 6 If the quantities : 3 , m , 15 , 10 are proportional , then $\dots\dots\dots$ (Basioun - El-Gharbia 25)
 (a) 3 (b) 6 (c) 4 (d) 2

- 7 If $b : 12 = 2 : 3$, then : b = $\dots\dots\dots$ (West Kafr-El Sheikh - Kafr El-Sheikh 25)
 (a) 6 (b) 8 (c) 5 (d) 14

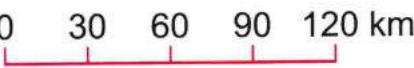
- 8 Which of the following pairs of ratios are not proportional ? (Sinnuris - Fayoum 25)
 (a) $\frac{1}{8}, \frac{4}{32}$ (b) $\frac{3}{2}, \frac{4}{9}$ (c) $\frac{1}{5}, \frac{16}{80}$ (d) $\frac{21}{42}, \frac{9}{18}$

- 9 The ratio $\frac{2}{5}$ is equal to the ratio $\dots\dots\dots$ (El-Montazah - Alex. 25)
 (a) $\frac{1}{10}$ (b) $\frac{4}{5}$ (c) $\frac{6}{15}$ (d) $\frac{3}{5}$

- 10 If the ratio is 8 : 3 equal to the ratio 16 : x , then $x = \dots\dots\dots$ (El-Maasara - Cairo 25)
 (a) 9 (b) 3 (c) 6 (d) 24

- 11 If $\frac{2}{y} = \frac{x}{6}$, then $\frac{1}{2}xy = \dots\dots\dots$ (El-Qanater - El-Kalyoubia 25)
 (a) 12 (b) 10 (c) 9 (d) 6

- 12** If $18k = 6m$, then $\frac{m}{k} = \dots\dots\dots$ (Samannoud - El-Gharbia 25)
 (a) $\frac{1}{3}$ (b) $\frac{1}{6}$ (c) 3 (d) 6
-
- 13** If the length in the drawing is 2 cm and the actual length is 6 metres, then the scale drawing is $\dots\dots\dots$ (Edfu - Aswan 25)
 (a) 1 : 3 (b) 1 : 30 (c) 1 : 3,000 (d) 1 : 300
-
- 14** On a map, every 1 cm. represents 5 km. If the distance between two villages is 25 km, then the distance between them on the map in centimetres is $\dots\dots\dots$ (Dar El-Salam - Souhag 25 / Qalin - Kafr El-Sheikh 25)
 (a) 3 (b) 5 (c) 10 (d) 15
-
- 15** A model of an aircraft is drawn to scale 1 : 1,000. If the length of the model in the drawing is 7.4 cm., then the real length of the aircraft is $\dots\dots\dots$ meters. (Maadi - Cairo 25)
 (a) 7,400 (b) 740 (c) 75 (d) 74
-
- 16** If a scale drawing > 1 , then it represents $\dots\dots\dots$ (El-Harm - Giza 25)
 (a) magnification. (b) minimization. (c) equality. (d) otherwise.
-
- 17** Which of the following scale drawings expresses magnification? (Manfalut - Assiut 25)
 (a) 1 : 700 (b) 7,000 : 1 (c) 1 : 500 (d) 1 : 7,000
-
- 18** Which of the following scale drawings expresses minimization? (Abu Kabir - El-Sharkia 25)
 (a) 20 : 1 (b) 1 : 2,000 (c) 200 : 1 (d) 2,000 : 1
-
- 19** Which of the following scale drawings means that every 1 centimeter in the drawing represents 6.5 km in reality? (Bandar Damanhour - El-Beheira 25)
 (a) 1 : 6,500,000 (b) 1 : 6.5 (c) 1 : 650,000 (d) 1 : 6,500
-
- 20** If the length of an insect is 0.4 mm and its length after magnification is 6 cm, what is the magnification ratio? (El-Manzala - El-Dakahlia 25 / Ihnasia - Beni Suef 25)
 (a) 1 : 15 (b) 15 : 1 (c) 1 : 150 (d) 150 : 1
-
- 21** If the scale of a map is 1 : 600,000, then each 1 cm. on the map represents $\dots\dots\dots$ km. (El-Khosous - El-Kalyoubia 25)
 (a) 0.6 (b) 6 (c) 60 (d) 600

- 22 If the scale of a map is  and the distance between two cities on the map is 2 cm, what is the actual distance between them ?
(West Shoubra El-Khema - El-Kalyoubia 25)
(a) 30 km (b) 60 km (c) 60,000 cm (d) 1,200,000 cm
-
- 23 An amount of 1,600 pounds was divided between two people in the ratio of 3 : 5 , so the smaller share = pounds.
(Quesna - El-Monofia 25)
(a) 200 (b) 600 (c) 1,000 (d) 800
-
- 24 A piece of land with an area of 63 feddan was divided between two people in a ratio 2 : 7 Which of the following is the share of one of them ?
(South - Ismailia 25)
(a) 9 feddan. (b) 49 feddan. (c) 28 feddan. (d) 30 feddan.
-
- 25 The sum of two numbers is 264 and the ratio between them is 4 : 7 , so the larger number =
(Shibin El-Qanater - El-Kalyoubia 25)
(a) 132 (b) 96 (c) 168 (d) 100
-
- 26 If the ratio between the lengths of two trees and is 3 : 5 , and the length of the shorter tree is 9 meters , then the length of the other tree is = meters.
(Samannoud - El-Gharbia 25)
(a) 12 (b) 15 (c) 18 (d) 21
-
- 27 The ratio among the lengths of the sides of a triangle is 2 : 4 : 5 , if the length of the smallest side is 20 cm. , then the length of the longest side is = cm.
(Beni Ebeid - El-Dakahlia 25)
(a) 10 (b) 20 (c) 30 (d) 50
-
- 28 If the price of a commodity decreases from 2,000 pound to 1,700 pound , what is the rate of reduction?
(Abu Tisht - Qena 25 / El-Khosous - El-Kalyoubia 25)
(a) 10 % (b) 15 % (c) 20 % (d) 25 %
-
- 29 If the price of a blender increases from 700 LE to 840 LE , so the rate of increase is
(Bandar Kafr El-Dawwar - El-Beheira 25)
(a) 10 % (b) 15 % (c) 18 % (d) 20 %
-
- 30 Ahmed bought a television for 18,000 pounds with a discount of 10 %. So the price before the discount was pounds.
(Agouza - Giza 25)
(a) 19,000 (b) 17,000 (c) 20,000 (d) 1,000

- 31** Manar deposited an amount of 50,000 pounds in a bank with an annual interest rate of 18 % The total amount she will receive after one year of the deposit is pounds. *(Nabarow - El-Dakahlia 25)*
 (a) 9,000 (b) 59,000 (c) 41,000 (d) 68,000
-
- 32** $\{3\}$ $\{2, 3, 4, 6\}$ *(Middle Cairo - Cairo 25)*
 (a) $\not\subset$ (b) $\subset$ (c) $\in$ (d) $\notin$
-
- 33** 7 $\{5, 4, 7\}$ *(West Zagazig - El-Sharkia 25)*
 (a) $\subset$ (b) $\in$ (c) $\not\subset$ (d) $\notin$
-
- 34** $\{3\}$ $\{6, 2, 33\}$ *(Hosh Essa - El-Beheira 25)*
 (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$
-
- 35** If the sets A and B are disjoint , then $A \cap B$ equals *(Shibin El-Qanatr - El-Kalyoubia 25)*
 (a) A (b) B (c) $\emptyset$ (d) Otherwise
-
- 36** $\emptyset$ $\{3, 4\}$ *(El-Qareen - El-Sharkia 25)*
 (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$
-
- 37** Which of the following is a proper subset of the set $X = \{1, 3, 2, 5, 4\}$? *(East El-Mahalla - El-Gharbia 25)*
 (a) $\{3, 5, 9\}$ (b) $\{1, 5, 6\}$ (c) $\{1, 4, 2\}$ (d) $\emptyset$
-
- 38** If $A = \{3, 6, 5\}$, then the number of all subsets of A is equal to *(Hamoul - Kafr El-Sheikh 25)*
 (a) 4 (b) 6 (c) 8 (d) 16
-
- 39** The number of actual proper of the set $\{2, 5, 9\}$ is *(Abu El-Matamir - El-Beheira 25)*
 (a) 3 (b) 6 (c) 8 (d) 12
-
- 40** If $\{9, 8\} = \{8, 3, X\}$, then $X =$ *(El-Maasara - Cairo 25)*
 (a) 6 (b) 3 (c) 2 (d) 8
-
- 41** If $X \in \{2, 5\} \cap \{5, 7, 8\}$, then $X =$ *(El-Badrashin - Giza 25)*
 (a) 2 (b) 5 (c) 7 (d) 8

- 42** If the number of elements in $A \cap B$ is equal to 4, then the number of elements of A cannot be equal *(Dar El-Salam - Cairo 25)*
 (a) 3 (b) 4 (c) 5 (d) 6
-
- 43** If $A \subset B$, then $A \cap B = \dots\dots\dots$ *(Berket El-Sabaa - El-Monofia 25)*
 (a) $A \cup B$ (b) $\emptyset$ (c) B (d) A
-
- 44** If A, B two non-empty sets, then $A \cap B \dots\dots\dots A$ *(East El-Mansoura - El-Dakahlia 25)*
 (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$
-
- 45** If $B \subset A$ and $A = \{1, 3, 4\}$, which of the following could be set B ? *(Qus - Qena 25)*
 (a) $\{5, 3, 4\}$ (b) $\{2, 4\}$ (c) $\{1, 4\}$ (d) $\{1, 2, 4\}$
-
- 46** If $\{a, b - a\} = \{2, 4\}$, then $a + b$ could be *(Abu El-Nomros - Giza 25)*
 (a) 1 (b) 8 (c) 4 (d) 6
-
- 47** If $A = \{1, 2\}$, $B = \{3, 4\}$, then $A \cap B = \dots\dots\dots$ *(Shibin El-Kom - El-Monofia 25)*
 (a) $\{1, 2\}$ (b) $\{3, 4\}$ (c) $\{1, 2, 3, 4\}$ (d) $\emptyset$
-
- 48** $-5 + (-3) = \dots\dots\dots$ *(El-Basatin - Cairo 25)*
 (a) -2 (b) 2 (c) -8 (d) 8
-
- 49** $-3 - (-2) = \dots\dots\dots$ *(Qalyub - El-Kalyoubia 25)*
 (a) -5 (b) -1 (c) 1 (d) 5
-
- 50** If $H = (-6)$, $K = 2$, then $K + (-H) = \dots\dots\dots$ *(El-Bagour - El-Monofia 25)*
 (a) 1 (b) -1 (c) 8 (d) -8
-
- 51** Which of the following is equivalent to the operation of subtraction: $8 - (-4)$? *(Supervision - Suez 25)*
 (a) $8 - 4$ (b) $4 - 8$ (c) $8 + 4$ (d) $-8 - 4$
-
- 52** Which of the following addition results in a negative sign? *(El-Hamoul - Kafr El-Sheikh 25)*
 (a) $2 + 3$ (b) $(-6) + 9$ (c) $(-4) + 1$ (d) $(-8) + 8$
-
- 53** The neutral element of addition in $\mathbb{Z}$ is *(Kafr Saad - Damietta 25)*
 (a) 0 (b) -1 (c) 1 (d) 2

- 54 $(-5) \times (-2) = \dots\dots\dots$ (Supervision - Ismailia 25)
 (a) 10 (b) -10 (c) 3 (d) -3
-
- 55 Which of the following is equal to (-5) ? (Assiut - Assiut 25)
 (a) $-25 \div (-5)$ (b) $-25 \div 5$ (c) $1 \div (1 - 5)$ (d) $0 \div (-5)$
-
- 56 Which of the following multiplication results a negative sign ? (Qus - Qena 25)
 (a) $-3 \times (-5)$ (b) -1×5 (c) -5×0 (d) $|-1| \times |3|$
-
- 57 The additive inverse of the number $|-3|$ is $\dots\dots\dots$ (Samasta - Beni Suef 25)
 (a) 4 (b) -3 (c) 3 (d) 5
-
- 58 If $x = |-5|$, $y = -4$, then $x + y = \dots\dots\dots$ (Ibshaway - El-Fayoum 25)
 (a) -9 (b) 9 (c) 1 (d) -1
-
- 59 The additive inverse of the number -2 is $\dots\dots\dots$ (Matay - El-Menia 25)
 (a) 3 (b) -3 (c) 2 (d) -2
-
- 60 Which of the following sum results a positive sign? (Monof - El-Monofia 25)
 (a) $5 + (-5)$ (b) $6 + (-7)$ (c) $(-5) + (-5)$ (d) $(-4) + 5$
-
- 61 If $a = 3$, $b = -1$, $c = 2$, then $ab - 5c = \dots\dots\dots$ (El-Dalangat - El-Beheira 25)
 (a) -19 (b) -13 (c) 2 (d) 1
-
- 62 The multiplicative identity in $\mathbb{Q}$ is $\dots\dots\dots$ (El-Obour - El-Kalyoubia 25)
 (a) 1 (b) -1 (c) $\frac{1}{2}$ (d) 0
-
- 63 $2\frac{1}{4} = \dots\dots\dots\%$ (El-Khanka - El-Kalyoubia 25)
 (a) 25 (b) 225 (c) 200 (d) $\frac{9}{4}$
-
- 64 If $1 = \frac{7}{2} \times a$, then $a = \dots\dots\dots$ (Motoubs - Kafr El-Sheikh 25)
 (a) $\frac{7}{2}$ (b) $3\frac{1}{2}$ (c) $-\frac{2}{7}$ (d) $\frac{2}{7}$
-
- 65 The multiplicative inverse of the number 0.7 is $\dots\dots\dots$ (Dar El-Salam - Souhag 25)
 (a) $\frac{7}{10}$ (b) $\frac{10}{7}$ (c) $\frac{9}{7}$ (d) $\frac{7}{9}$
-
- 66 The multiplicative inverse of $-\frac{7}{5}$ is $\dots\dots\dots$ (Bulaq El-Dakrour - Giza 25)
 (a) $\frac{5}{7}$ (b) 1 (c) $-\frac{5}{7}$ (d) $\frac{7}{5}$

- 67** The multiplicative inverse of the number $-\frac{3}{4}$ is *(Ashmoun - El-Monofia 25)*
 (a) $-\frac{4}{3}$ (b) $\frac{3}{4}$ (c) $\frac{4}{3}$ (d) $-\frac{3}{4}$
-
- 68** The additive inverse of the number $\frac{-7}{3}$ is *(El-Fashn - Beni Suef 25)*
 (a) $-\frac{7}{3}$ (b) $-\frac{3}{7}$ (c) $\frac{7}{3}$ (d) $\frac{3}{7}$
-
- 69** The multiplicative inverse of the number 0.5 is *(North - Giza 25)*
 (a) $-\frac{5}{9}$ (b) $\frac{5}{9}$ (c) $1\frac{4}{5}$ (d) 2
-
- 70** Which of the following is equal to $\frac{3}{5} + \frac{-2}{3}$? *(South - Ismailia 25)*
 (a) $\frac{1}{8}$ (b) $\frac{1}{15}$ (c) $-\frac{6}{15}$ (d) $-\frac{1}{15}$
-
- 71** The remainder of subtracting $\frac{1}{4}$ from $\frac{5}{8}$ *(El-Adwa - El-Menia 25)*
 (a) $\frac{2}{8}$ (b) $\frac{3}{8}$ (c) $\frac{5}{8}$ (d) $\frac{1}{2}$
-
- 72** $2\frac{3}{5} + \frac{1}{2} =$ *(El-Qanater El-Khayriya - El-Kalyoubia 25)*
 (a) 2 (b) $\frac{3}{13}$ (c) 3.1 (d) 1
-
- 73** $\frac{4}{9} \times 16 + \frac{4}{9} \times 11 =$ *(El-Mansha - Souhag 25)*
 (a) 8 (b) 12 (c) 27 (d) 36
-
- 74** If $\frac{a}{2} = 0.5$ What is the value of $|9a - 5|$? *(Nasser - Beni Suef 25)*
 (a) 5 (b) -5 (c) 0 (d) 10

Second Essay questions

- 1** Find the value of x if : $\frac{16}{x} = \frac{8}{12}$ *(El-Badrashin - Giza 25)*
-
- 2** If $\frac{d-1}{4} = \frac{5}{2}$ Find : the value of d . *(El-Sahel - Cairo 25)*
-
- 3** A car travels a distance of 176 km consuming 8 litres of petrol. What distance does the car travel with a full tank if the tank capacity is 14 litres ? *(Farshout - Qena 25)*
-
- 4** A factory produces 1,500 light bulbs in 3 hours. Calculate the factory's production in 2 hours. *(Abu Qurqas - El-Menia 25)*
-
- 5** If the distance between two cities on a map is 5 cm , and the real distance between them is 30 km. Find the scale drawing of the map. *(El-Tall El-Kabir - Ismailia 25)*

- 6 A picture shows a butterfly whose real length is 3 cm if its length in the picture is 3 meters. Find the scale drawing. *(East - Alex. 25)*

- 7 If the scale drawing of a map is 1 : 600,000 and the distance between two cities on the map is 4.5 cm , find the real distance between them in kilometres. *(Khanka - El-Kalyoubia 25 / Rashid - El-Beheira 25 / Matay - El-Menia 25)*

- 8 If the scale drawing of a map is 1 : 300,000 and the real distance between two cities is 18,000 meters , find the distance between the two cities on the map. *(Quesna - El-Monofia 25)*

- 9 If the distance between two cities is 24 km , find the distance between them in centimeters on a map drawn to scale 1 : 400,000 *(Mit Salsil - El-Dakahlia 25)*

- 10 If the magnification ratio of an insect image is 30 : 1 and the real length of the insect is 2.5 cm. Find the length of the insect in the image in centimeters. *(El-Gomrok - Alex. 25)*

- 11 A map is drawn to the opposite scale drawing.
If the distance between two cities on the map is 5 cm , find the actual distance between the two cities in kilometers.



(Bander Kafr El-Dawar - El-Beheira 25)

- 12 An amount of money 960 pounds was divided between two people in the ratio of 5 : 7
Find the share of each person. *(Deirb Najm - El-Sharkia 25)*

- 13 Divide the amount of 850 pounds between Ahmed and Sharif in the ratio of 3 : 2
Find Sharif's share *(Abu Kabir - El-Sharkia 25)*

- 14 The ratio between two numbers is 2 : 3 , and the larger number is 18
Find the smaller number. *(Kafr El-Zayat - El-Gharbia 25)*

- 15 A piece of land with an area of 63 feddans was divided between two people in the ratio of 4 : 5
Find the greater share. *(Qalyub - El-Kalyoubia 25)*

- 16 A school has a number of 450 students. If the ratio of boys to girls is 2 : 3
Find the number of girls in the school. *(El-Qusiya - Assiut 25)*

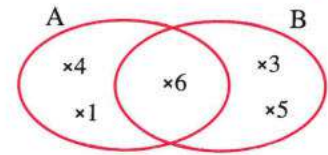
- 17 Two people divided an amount of money between them in the ratio of 2 : 7
The second person's share was 500 pounds more than the first person's share.
Find the value of the total amount. *(West Beni Suef - Beni Suef 25)*

- 18** Two friends participated in a commercial business in the ratio of 5 : 2. If the greater share of the profits is 20,000 pounds , what is the total profit ? *(El-Rahmaniyah - El-Beheira 25)*
-
- 19** Divide the amount of money 8,400 pounds among three people in the ratio of 3 : 4 : 5
Find the share of each person. *(Fakous - El-Sharkia 25)*
-
- 20** Three people participated in a business with a capital of 75,000 pound in the ratio of 4 : 5 : 6
Calculate how much money each person paid. *(Ibshaway - El-Fayoum 25)*
-
- 21** If the ratio between the lengths of the sides of a triangle with a perimeter of 60 cm is 5 : 3 : 4
find the length of the smallest side of the triangle. *(Dar El-Salam - Cairo 25)*
-
- 22** Three people shared in a business. The first paid 30,000 , the second paid 40,000 , and the third paid 10,000. At the end of the year , the profits was 24,000 pounds.
Find each person's share of the profits. *(El-Basatin - Cairo 25)*
-
- 23** If the price of a dress is 460 pound , and during the sales season a 15 % discount is applied to the original price of the dress , what is the sale price after the discount ? *(Shibin El-Kom - El-Monofia 25)*
-
- 24** Maryam bought a vacuum cleaner for 4,800 pound. If the discount rate is 15 %
Calculate the price of the vacuum cleaner after the discount. *(El-Maasara - Cairo 25)*
-
- 25** Ahmed got a discount 10 % on the price of a bag from a store and paid 450 pounds.
What is the original price of the bag ? *(El-Qanater El-Khayriya - El-Kalyoubia 25)*
-
- 26** A man bought goods for 28,000 pounds and sold them at a profit 15 % . What is the selling price after adding the profit? *(Qaleen - Kafr El-Sheikh 25 / Dar El-Salam - Souhag 25)*
-
- 27** If 13,500 tourists represent 12% of the total number of tourists , find the total number of tourists. *(Bandar Damanhour - El-Beheira 25)*
-
- 28** Mary wants to subscribe to home internet service for 500 pounds per month , plus 14 % tax applied to the service price. What is the tax and the amount Mary pays each month? *(Borg El-Arab - Alex. 25)*
-
- 29** If $\{3, 1, x\} = \{5, y, 3\}$ Find the value of : $x + y$ *(El-Nozha - Cairo 25)*

30 Using the given Venn diagram , write the following in listing form :

(West Nasr City - Cairo 25)

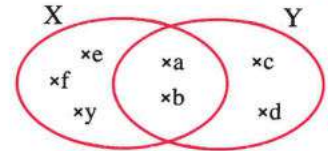
- ① A ② B
③ $A \cup B$ ④ $A \cap B$



31 From the given Venn diagram , find :

(Quesna - El-Monofia 25)

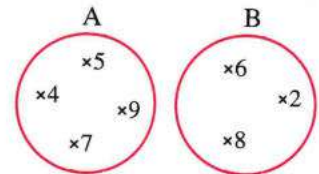
- ① X ② Y
③ $X \cap Y$ ④ $X \cup Y$



32 From the given Venn diagram :

(El-Sinnbalaween - El-Dakahlia 25)

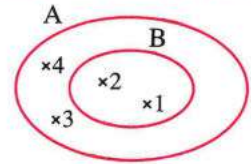
Find using the listing method : A , B , $A \cap B$



33 From the given figure , find :

(West El-Mahalla - El-Gharbia 25)

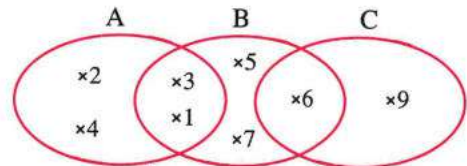
- ① $A \cap B$
② $A \cup B$



34 From the given Venn diagram :

(El-Waily - Cairo 25)

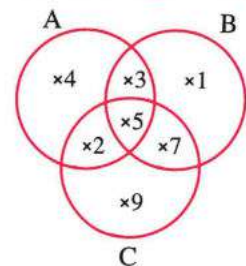
Find : $A \cap C$, $B \cup C$



35 From the given Venn diagram , find :

(El-Zarka - Damietta 25 / Farshout - Qena 25)

- ① $A \cap B$
② $A \cup C$
③ $A \cap B \cap C$



36 If $A = \{1, 5, 3, 7\}$, $B = \{1, 2, 5, 9\}$

Find : $A \cup B$, $A \cap B$

(El-Sahel - Cairo 25 / Qalyub - El-Kalyoubia 25)

37 If $A = \{1, 3\}$, $B = \{x : x \in \mathbb{N}, x < 2\}$ Find :

(Nasr - Beni Suef 25)

- ① $A \cap B$ ② $A \cup B$ ③ The number of all subsets of set A.

38 If $A = \{2, 4\}$, $B = \{2, 3, 5\}$ Find :

① The number of all subsets of set B

② $A \cap B$

③ $A \cup B$

(El-Qanater El-Khayriya - El-Kalyoubia 25)

39 If $A = \{a, b, c\}$, $B = \{d, a, c\}$

Draw a Venn diagram , then find each of the following :

(Fakous - El-Sharkia 25)

① $A \cap B$

② $A \cup B$

40 If $A = \{3, 4, 7, 8\}$, $B = \{3, 5, 7\}$

Represent the two sets using Venn diagram , then find :

(El-Omrana - Giza 25)

① $A \cap B$

② $A \cup B$

41 Use the properties of addition to find the sum of each of the following :

① $-6 + (-13) + 6$

(Bandar Damanhour - El-Beheira 25)

② $(-12) + 25 + (-13)$

(El-Tall El-Kabir - Ismailia 25)

③ $\left(-\frac{7}{4}\right) + \frac{2}{5} + \frac{7}{4}$

(Motoubas - Kafr El-Sheikh 25)

④ $\frac{2}{5} - \frac{3}{4} + \frac{3}{5} + \frac{-1}{4}$

(Kafr Saad - Damietta 25)

⑤ $\left(\frac{-4}{10}\right) + \frac{1}{4} + \frac{2}{10} + \left(\frac{-1}{4}\right)$

(El-Dalangat - El-Beheira 25)

⑥ $\frac{-3}{8} + \frac{1}{5} + \frac{-5}{8} + \frac{9}{5}$

(Tukh - El-Kalyoubia 25)

42 Use the properties of multiplication in $\mathbb{Z}$ to find the product of each of the following :

① $4 \times (-12) \times 25$

(Shoubra - Cairo 25)

② $-4 \times (-19) \times 25$

(Ashmoun - El-Monofia 25)

43 Use the properties of addition in $\mathbb{Z}$ to find the sum of each of the following :

① $15 \times 65 - 15 \times 35$

(West Zagzig - El-Sharkia 25)

② $2 \times 8 - 8 + 8 \times 9$

(Manfalut - Assuit 25)

③ $3 \times (-2) + 3 \times 5$

(Akhmim - Souhag 25)

④ $\frac{5}{7} \times 8 + \frac{5}{7} \times 6$

(Mallawi - El-Menia 25)

⑤ $\frac{7}{12} \times 13 - \frac{7}{12}$

(Abu El-Matamir - El-Beheira 25)

⑥ $\frac{5}{17} \times 20 - \frac{5}{17} \times 7 + \frac{5}{17} \times 21$

(Atfih - Giza 25)

⑦ $6 \times \frac{3}{11} + 4 \times \frac{3}{11} + \frac{3}{11}$

(Saqalta - Souhag 25)

⑧ $\frac{1}{2} \times 13 + \frac{1}{2} \times 8 - \frac{1}{2}$

(East Mansoura - El-Dakahlia 25)

⑨ $\left(-\frac{4}{9}\right) \times 8 + 9 \times \left(-\frac{4}{9}\right) + \left(-\frac{4}{9}\right)$

(Tala - El-Monofia 25)

44 Use the result of each of the following :

① $\left(\frac{1}{4}\right) + \left(\frac{-1}{3}\right)$

(Aswan - Aswan 25)

② $-\frac{3}{2} + \frac{13}{5}$

(West Shoubra El-Kheima - El-Kalyoubia 25)

③ $0.28 - \frac{4}{25}$

(Shibin El-Kom - El-Monofia 25)

④ $\left(\frac{-3}{5}\right) \times (-0.8\bar{3})$

(Aswan - Aswan 25)

⑤ $\frac{5}{27} \div \frac{1}{9}$

(Zafta - El-Gharbia 25)

⑥ $\frac{-4}{5} \div 3 \frac{1}{5}$

(Edfu - Aswan 25)

⑦ $-3 \frac{3}{4} \div \left(-2 \frac{1}{4}\right)$

(Assiut - Assiut 25)

⑧ $\left(\frac{9}{7} + \left|\frac{-1}{7}\right|\right) \div \frac{4}{14}$

(West - Alex. 25)

⑨ $\left[\frac{-5}{12} - \left(-\frac{7}{6}\right)\right] \div \frac{3}{4}$

(Qus - Qena 25)

45 If $a = 20$, $b = -30$ Find the result of each of the following : (Berket El-Sabaa - El-Monofia 25)

① $a - b$

② $a \times b$

③ $a + b$

46 If $a = 10$, $b = -5$ Find the result of : $b - (-a)$ (Kafr Saad - Damietta 25)

47 If $a = 15$, $b = -5$ Find the value of : $|a \div b|$ (Kom Ambo - Aswan 25)

48 If $a = 2$, $b = -1$, $c = -5$

Find the numerical value of the expression : $2a + b - c$ (Shubrakhit - El-Beheira 25)

49 If $x = 5$, $y = 3$

Find the numerical value of the expression : $y(x + y)$ (Qaha - El-Kalyoubia 25)

50 If $a = 5$, $b = -4$, $c = 2$

Find the result of each of the following in its simplest form : (El-Montazah - Alex. 25)

① $(a \times b) \div c$

② $a - b + c$

51 If $x = \frac{7}{4}$, $y = \frac{2}{5}$, $z = \frac{-7}{4}$

Find in simplest form , the value of the expression : $(x + z) \div y$ (Rashid - El-Beheira 25)

52 If $y = \frac{1}{3}$, $x = \frac{5}{9}$

Find the numerical value of the expression : $\frac{x + y}{x - y}$ (Ihnaasia - Beni Suef 25)

October tests



Test 1

1 Choose the correct answer from the given ones :

1 If $x = |-2|$, $y = -3$, then $xy = \dots\dots\dots$

- (a) -5 (b) 5 (c) 6 (d) -6

2 Which of the following are two similar algebraic expressions ?

- (a) $2y$, $-2y^2$ (b) y^2 , x^2 (c) $2y$, $-3y$ (d) 5 , $-3y$

3 If the price of a pair of trousers increases from 400 pounds to 480 pounds , what is the rate of increase ?

- (a) 80% (b) 10% (c) 15% (d) 20%

4 If three times a number is 18 , then $\frac{1}{3}$ of this number is equal to $\dots\dots\dots$

- (a) 2 (b) 1 (c) $\frac{2}{3}$ (d) $\frac{4}{3}$

5 If the length in the drawing is 8 cm and the real length is 320 km. , what is the scale drawing ?

- (a) $4,000,000 : 1$ (b) $1 : 400,000$ (c) $1 : 4,000,000$ (d) $1 : 40$

6 The ratio between the lengths of the sides of a triangle is $4 : 5 : 6$. If the perimeter is 30 cm , what is the length of the smallest side?

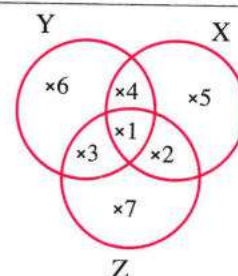
- (a) 4 cm (b) 8 cm (c) 12 cm (d) 10 cm

2 From the opposite Venn diagram , find :

1 X, Y, Z

2 $X \cap Y \cap Z$

3 $X \cap (Y \cup Z)$



3 Using the distribution property , find the value of :

1 $\frac{6}{37} \times 7 + \frac{6}{37} \times 5 + \frac{6}{37} \times (-11)$

2 $(-14) \times 101$

Test

2

1 Choose the correct answer from the given ones :

1 The sum of the two expressions : $5a - 3b$, $5b - 3a$ is

- (a) $10a - 6b$ (b) $2a + 2b$ (c) $8a + 8b$ (d) $-8a + 2b$

2 The opposite shape shows the scale of a map.



If the distance between two cities on this map is 3.5 cm , what is the real distance between them ?

- (a) 75 km (b) 90 km (c) 105 km (d) 120 km

3 If $A = \{5, 7\}$, what is the number of subsets of A ?

- (a) 2 (b) 4 (c) 6 (d) 8

4 If the price of a refrigerator is 12,000 pounds and a 15 % discount is applied , what is the price of the refrigerator in pounds after the discount?

- (a) 1,800 (b) 10,200 (c) 11,885 (d) 10,000

5 If $\frac{8}{x+4} = \frac{3}{9}$, what is the value of x ?

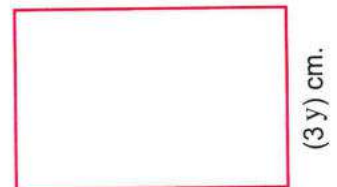
- (a) 8 (b) 9 (c) 10 (d) 20

6 The multiplicative inverse of the number $-2\frac{1}{3}$ is

- (a) $-\frac{7}{3}$ (b) $\frac{7}{3}$ (c) $-\frac{3}{7}$ (d) $\frac{3}{7}$

2 Find the mathematical expression that represents the perimeter of the given rectangle in its simplest form , then find the numerical value of the perimeter when $x = 4$ and $y = 2$ cm.

$(2x+1)$ cm.



3 Omar, Nader, and Sharif participated in a business project. Omar paid 450,000 LE , Nader paid 250,000 LE , and Sharif paid 300,000 LE. At the end of the year , the net profit was 80,000 LE. Calculate each person's share of the profits

1 Choose the correct answer from the given ones :

1 If $4(X - 2) = 8$, what is the value of $2X$?

(a) 8

(b) 12

(c) 0

(d) 4

2 What is the result of subtracting $8X - 7y$ from $5X - 2y$?

(a) $-3X - 5y$

(b) $3X + 5y$

(c) $3X - 5y$

(d) $5y - 3X$

3 If $A = \{2, 3, 5\}$, what is the number of subsets of A ?

(a) 3

(b) 5

(c) 6

(d) 8

4 If the price of a commodity decreases from 1,500 pounds to 1,200 pounds , what is the rate of reduction ?

(a) 3 %

(b) 15 %

(c) 20 %

(d) 30 %

5 If the real length is 80 meters and the scale drawing is 1 : 10,000 , what is the length in the drawing in centimeters ?

(a) 0.08 cm

(b) 80 cm

(c) 8 cm

(d) 0.8 cm

6 If $\frac{X}{2} = \frac{48}{32}$, what is the value of X ?

(a) 3

(b) 5

(c) 4

(d) 8

2 If $X = \{8, 3\}$, $Y = \{1, 3, 5, 8\}$ represent these sets by Venn diagram , then find :

1 $X \cup Y$

2 $X \cap Y$

3 A man distributed an amount of money between two persons so that the first person's share was half of the second person's share. If the difference between them was 600 pounds , find the share of each person.

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

اختبار شهر اكتوبر



1- Choose the correct answer:

2

- a If $\frac{2}{3} = \frac{12}{c}$, then the value of $c - 2 =$ (18 , 16 , 14 , 7)
- b A meal costs 150 L.E., and 18% of the cost is added as the meal's profit.
 , then the meal's price = L.E. (170 , 177 , 150 , 98)

2- Answer each of the following:

8

- a If $b = 7$, and $c = -1$, then find the value of the expression: $2b^2 - 3b \div -(c)$

- b A plumber has a pipe $64\frac{5}{8}$ dm long. He first cuts off a part $2\frac{7}{8}$ dm from the end of the pipe, and then he cuts off another $1\frac{3}{8}$ dm.

How long is the remaining part of the pipe?

.....

- c Add the expression: $7y - 3x - 6z$ to the expression: $z - 2y - 5x$.

- d Find in $\mathbb{Q}$ the solution set of the equation: $2(2x - 5) - 2 = x$

1- Choose the correct answer:

2

- a Which of the following sums has a positive sign?

($19 + (-26)$, $-35 + 17$, $-25 + (-12)$, $40 + (-18)$)

- b $\frac{5}{25} = \dots\dots\dots\%$

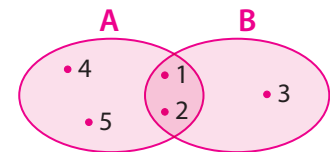
(35 , 20 , 45 , 50)

2- Answer each of the following:

8

- a From the opposite Venn diagram,

- $A \cup B = \dots\dots\dots$
- $A \cap B = \dots\dots\dots$



- b A car uses 5 liters of petrol to cover a distance of 60 km, how much petrol would the car need to cover the distance of 180 km if it travels at the same rate?

.....

.....

.....

.....

- c A square of $1\frac{3}{4}$ cm side length, find its perimeter.

.....

.....

- d If $a = -3$ and $b = 7$, then find the value of the expression: $2a^2 - 7b$.

.....

.....

.....

.....

1- Choose the correct answer:

2

- a In the following expression: $2a - 5b - 7$, the coefficients are and
(2,5 , 2,7 , -5,7 , 2,-5)
- b If the scale drawing is $500 : 1$, that represents
(minimization , equation , magnification , expression)

2- Answer each of the following:

8

- a Write all subsets of the following set $X = \{ 3, 2, 7 \}$, then mention their number.
.....
.....
- b If the length of an insect in a microscope is 8.4 cm, and the scale drawing is $12 : 1$, find its real length in mm.
.....
.....
- c Alaa reads 10 pages in 40 minutes, what is the time in hours she needs to read 120 pages if she reads at the same rate?
.....
.....
.....
- d Three persons shared 7,200 L.E. in the ratio of $3 : 4 : 5$, calculate the share of each one.
.....
.....
.....
.....
.....

1- Choose the correct answer:

2

- a The multiplicative inverse of $0.\overline{23}$ is $(\frac{23}{99}, \frac{23}{100}, \frac{99}{23}, 0.23)$
- b The additive inverse of number 0 is $(1, 0, -1, \emptyset)$

2- Answer each of the following:

8

- a A square of $2\frac{1}{4}$ cm side length, find its area.

.....

.....

- b The ratio between two numbers is 2 : 5, if the smaller number is 48, what is the larger number?

.....

.....

.....

.....

- c Solve the following proportions:

a. $\frac{3}{4} = \frac{x}{20}$

b. $\frac{15}{x} = \frac{30}{12}$

a.

b.

- d If the length of an ant in a microscope is 9.5 cm, and the scale drawing is 10 : 1. Find its real length in mm.

.....

.....

1- Choose the correct answer:

2

- a If $\frac{x-2}{3} = \frac{35}{21}$, then the value of $x =$ (2 , 3 , 5 , 7)
- b If $x = |-4|$ and $y = -3$, then $x + y =$ (-7 , 7 , 1 , -1)

2- Answer each of the following:

8

- a Use the properties of operation in $\mathbb{Z}$ to find:
- a. $-4 \times (-19) \times 25$
-
-
-
- b. $-6 + (-13) + 6$
-
-
-
- b If the ratio among the side lengths of a triangle with a perimeter of 135 cm is 7 : 5 : 3 .
Find the length of its longest side.
-
-
-
-
- c If a mobile costs 9,400 L.E. How much is it after adding a 12% tax rate?
-
-
-
-
- d If $A = \{ 5, 2, 3, 7 \}$, $B = \{ 4, 5, 7 \}$, and $C = \{ 7, 2 \}$ find:
- a. $A \cap B \cap C$ b. $(A \cup B) \cap C$
- a.
- b.

1- Choose the correct answer:

- a If $\frac{2}{3} = \frac{12}{c}$, then the value of $c - 2 = \dots\dots\dots$ (18 , **16** , 14 , 7)
- b A meal costs 150 L.E., and 18% of the cost is added as the meal's profit.
 , then the meal's price = $\dots\dots\dots$ L.E. (170 , **177** , 150 , 98)

2- Answer each of the following:

- a If $b = 7$, and $c = -1$, then find the value of the expression: $2b^2 - 3b \div -(c)$
- $$2b^2 - 3b \div -(c)$$
- $$= 2 \times 7^2 - 3 \times 7 \div -(-1)$$
- $$= 2 \times 49 - 21 \div 1$$
- $$= 98 - 21 = 77$$
- b A plumber has a pipe $64 \frac{5}{8}$ dm long. He first cuts off a part $2 \frac{7}{8}$ dm from the end of the pipe, and then he cuts off another $1 \frac{3}{8}$ dm.
- How long is the remaining part of the pipe?
- The remaining part of the pipe $= 64 \frac{5}{8} - [2 \frac{7}{8} + 1 \frac{3}{8}]$
- $$= 64 \frac{5}{8} - 3 \frac{10}{8} = 60 \frac{3}{8} \text{ dm.}$$
- c Add the expression: $7y - 3x - 6z$ to the expression: $z - 2y - 5x$.
- $$7y - 3x - 6z + z - 2y - 5x$$
- $$= 7y - 2y - 3x - 5x - 6z + z$$
- $$= 5y - 8x - 5z$$
- d Find in $\mathbb{Q}$ the solution set of the equation: $2(2x - 5) - 2 = x$
- $$2(2x - 5) - 2 = x$$
- $$4x - 10 - 2 = x$$
- $$4x - x - 12 = 0$$
- $$3x = 12 \quad , \quad x = 4 \quad , \quad \text{then the solution set} = \{ 4 \}$$

1- Choose the correct answer:

- a Which of the following sums has a positive sign?

($19 + (-26)$, $-35 + 17$, $-25 + (-12)$, **$40 + (-18)$**)

- b $\frac{5}{25} = \dots\dots\dots\%$

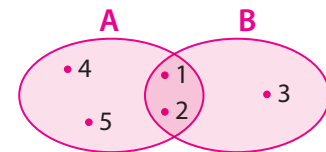
(35 , **20** , 45 , 50)

2- Answer each of the following:

- a From the opposite Venn diagram,

• $A \cup B = \dots\dots \{1, 2, 3, 4, 5\} \dots\dots$

• $A \cap B = \dots\dots \{1, 2\} \dots\dots$



- b A car uses 5 liters of petrol to cover a distance of 60 km, **how much petrol would the car need to cover the distance of 180 km if it travels at the same rate?**

Let x be what the car needs to cover 180 km.

$$\text{So, } \frac{5}{60} = \frac{x}{180}$$

$$60x = 5 \times 180$$

$$\text{, then } x = 900 \div 60 = 15 \text{ liters}$$

- c A square of $1\frac{3}{4}$ cm side length, **find its perimeter.**

The perimeter of the square = $4 \times$ side length

$$= 4 \times 1\frac{3}{4} = 7 \text{ cm}$$

- d If $a = -3$ and $b = 7$, then **find the value of the expression:** $2a^2 - 7b$.

$$2a^2 - 7b$$

$$= 2 \times (-3)^2 - 7 \times 7$$

$$= 2 \times 9 - 7 \times 7$$

$$= 18 - 49 = -31$$

1- Choose the correct answer:

- a In the following expression: $2a - 5b - 7$, the coefficients are and
(2,5 , 2,7 , -5,7 , **2,-5**)
- b If the scale drawing is 500 : 1, that represents
(minimization , equation , **magnification** , expression)

2- Answer each of the following:

- a Write all subsets of the following set $X = \{ 3, 2, 7 \}$, then mention their number.
The subsets of set X are: $\{ 3 \}$, $\{ 2 \}$, $\{ 7 \}$, $\{ 2, 3 \}$, $\{ 2, 7 \}$, $\{ 3, 7 \}$, $\{ 3, 2, 7 \}$, $\emptyset$
The number of subsets of X = 8
- b If the length of an insect in a microscope is 8.4 cm, and the scale drawing is 12 : 1, find its real length in mm.
The real length = Length in drawing $\div$ scale drawing
$$= 8.4 \div \frac{12}{1} = 8.4 \div 12 = 0.7 \text{ cm} \times 10 = 7 \text{ mm}$$
- c Alaa reads 10 pages in 40 minutes, what is the time in hours she needs to read 120 pages if she reads at the same rate?
Let x be the time she needs.
So, $\frac{10}{40} = \frac{120}{x}$
 $10x = 120 \times 40$, then $x = 4,800 \div 10 = 480 \text{ minutes} = 8 \text{ hours}$
- d Three persons shared 7,200 L.E. in the ratio of 3 : 4 : 5, calculate the share of each one.
The sum of ratios of the three persons = $3 + 4 + 5 = 12$
The value of one part = $7,200 \div 12 = 600 \text{ L.E.}$
So, The share of the 1st person = $3 \times 600 = 1,800 \text{ L.E.}$
The share of the 2nd person = $4 \times 600 = 2,400 \text{ L.E.}$
The share of the 3rd person = $5 \times 600 = 3,000 \text{ L.E.}$

1- Choose the correct answer:

- a The multiplicative inverse of $0.\overline{23}$ is $(\frac{23}{99}, \frac{23}{100}, \frac{99}{23}, 0.23)$
- b The additive inverse of number 0 is $(1, 0, -1, \emptyset)$

2- Answer each of the following:

- a A square of $2\frac{1}{4}$ cm side length, find its area.

The area of the square = Side length $\times$ side length

$$= 2\frac{1}{4} \times 2\frac{1}{4} = \frac{81}{16} = 5\frac{1}{16} \text{ cm}^2$$

- b The ratio between two numbers is 2 : 5, if the smaller number is 48, what is the larger number?

Smaller number : Larger number

$$2 : 5$$

$$48 : x$$

$$\text{Larger number } (x) = \frac{5 \times 48}{2} = 120$$

- c Solve the following proportions:

a. $\frac{3}{4} = \frac{x}{20}$

a. $x = 15$

b. $\frac{15}{x} = \frac{30}{12}$

b. $x = 6$

- d If the length of an ant in a microscope is 9.5 cm, and the scale drawing is 10 : 1. Find its real length in mm.

The real length = Length in drawing $\div$ scale drawing

$$= 9.5 \div \frac{10}{1} = 9.5 \div 10 = 0.95 \text{ cm} = 9.5 \text{ mm}$$

1- Choose the correct answer:

- a If $\frac{x-2}{3} = \frac{35}{21}$, then the value of $x = \dots\dots\dots$ (2 , 3 , 5 , **7**)
- b If $x = |-4|$ and $y = -3$, then $x + y = \dots\dots\dots$ (-7 , 7 , **1** , -1)

2- Answer each of the following:

- a Use the properties of operation in $\mathbb{Z}$ to find:

- a. $-4 \times (-19) \times 25$
 $= -4 \times 25 \times (-19)$ (Commutative property)
 $= (-4 \times 25) \times (-19)$ (Associative property)
 $= -100 \times (-19) = 1,900$ (Clouser property)
- b. $-6 + (-13) + 6$
 $= -6 + 6 + (-13)$ (Commutative property)
 $= (-6 + 6) + (-13)$ (Associative and additive inverse)
 $= 0 + (-13) = -13$ (Additive identity)

- b If the ratio among the side lengths of a triangle with a perimeter of 135 cm is 7 : 5 : 3 .
Find the length of its longest side.

1 st side	:	2 nd side	:	3 rd side	:	Perimeter
7	:	5	:	3	:	15
?	:		:		:	135

$$\text{The length of the longest side} = \frac{7 \times 135}{15} = 63 \text{ cm}$$

- c If a mobile costs 9,400 L.E. **How much is it after adding a 12% tax rate?**

The price	:	Tax rate	:	The price after tax
100%	:	12%	:	112%
9,400	:		:	?

$$\text{The price after tax} = \frac{112 \times 9,400}{100} = 10,528 \text{ L.E.}$$

- d If $A = \{5, 2, 3, 7\}$, $B = \{4, 5, 7\}$, and $C = \{7, 2\}$ **find:**

- a. $A \cap B \cap C$ b. $(A \cup B) \cap C$

a. $A \cap B \cap C = \{7\}$

b. $(A \cup B) \cap C = \{2, 3, 4, 5, 7\} \cap \{7, 2\} = \{7, 2\} = C$

حمل الآن

مجاناً وحصرياً

المراجعة رقم (3)

اختبار شهر اكتوبر



October Revision

First: Choose the correct answer:

1 If $\frac{2}{7} = \frac{x}{21}$, then $x =$

- a** 6 **b** 21 **c** 12 **d** 7

2 If the real length is 90 meters and the scale drawing is 1 : 10,000, what is the length in the drawing in centimeters?

- a** 0.09 cm **b** 90 cm **c** 9 cm **d** 0.9 cm

3 If $A = \{8, 9, 6\}$, and $B = \{2, 6, 7\}$, which set expresses $A \cup B$?

- a** $\{6\}$ **b** $\{2, 7\}$ **c** $\{8, 9\}$ **d** $\{2, 6, 7, 8, 9\}$

4 Which of the following sums has a positive sign?

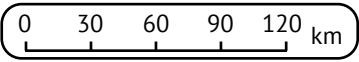
- a** $19 + (-26)$ **b** $-35 + 17$ **c** $-25 + (-12)$ **d** $40 + (-18)$

5 What is the mathematical expression for subtracting (-2) from x ?

- a** $x - 2$ **b** $2 - x$ **c** $-2 - x$ **d** $x + 2$

6 The first term in, 5, 10 and 20 is

- a** 10 **b** 2.5 **c** 40 **d** 50

7 If the scale drawing of a map is  and the distance between two cities on the map is 3 cm, what is the real distance between them?

- a** 30 km **b** 1,200,000 cm **c** 90 km **d** 90,000 cm

8 If $A = \{8, 9, 6\}$, and $B = \{2, 6, 7\}$, which set expresses $A \cap B$?

- a** $\{6\}$ **b** $\{2, 7\}$ **c** $\{8, 9\}$ **d** $\{2, 6, 7, 8, 9\}$

9 Which of the following products has a negative sign?

- a** $-3 \times (-9)$ **b** $(-2) \times 5$ **c** $0 \times (-5)$ **d** $-1 \times (-1)$

- 10 Which of the following pairs of terms are like terms?
 a $2x, -2x^2$ b $3a, 8b$ c $7x, x$ d x^2, y^2
- 11 The fourth proportional for the numbers 7, 5 and
 a 10 b 20 c 49 d 35
- 12 The length on a map is 12 cm, and in reality it is 7.2 km; then the drawing scale is
 a 1 : 60 b 1 : 600 c 1 : 6,000 d 1 : 60,000
- 13 If $A = \{5, 7\}$, what is the number of all subset of set A ?
 a 2 b 4 c 6 d 8
- 14 Which of the following is equivalent to the subtraction operation:
 $-5 - (-8)$?
 a $-5 + 8$ b $5 + 8$ c $-5 - 8$ d $5 - 8$
- 15 Which of the following is equal to $5a$?
 a $3 + 2a$ b $2 + 3a$ c $2a + 3a$ d $5 + a$
- 16 The third term in $\frac{3.5}{7} = \frac{?}{12}$ is
 a 3 b 6 c 7 d 12
- 17 If the length of a road in the drawing is 3 cm and the real length is
 1,500 meters, then the drawing scale will be
 a $\frac{1}{50}$ b $\frac{1}{500}$ c $\frac{1}{5,000}$ d $\frac{1}{50,000}$
- 18 If $x \in \{2, 5\} \cap \{5, 7, 8\}$, then $x =$
 a 2 b 5 c 7 d 8
- 19 $x + x + x =$
 a $3x^3$ b x^3 c $3 + x$ d $3x$
- 20 If $\frac{36}{x} = 0.4$, then $x =$
 a 90 b 9 c 0.9 d 0.09

- 21 If the real length of an insect is **0.3** mm and the drawing length after magnification is **4.5** cm, then the ratio of magnification will be
- a 1 : 15 b 15 : 1 c 1 : 150 d 150 : 1
- 22 If $\{4, 3\} \cap \{x, 1, 2\} = \{3\}$, then $x =$
- a 2 b 2 c 3 d 4
- 23 The additive identity in $\mathbb{Z}$ is
- a 0 b 1 c -1 d 2
- 24 $5a + (-3a) =$
- a $8a$ b $2a$ c $-2a$ d $-8a$
- 25 The third proportional to **4**, **12**, and 18 equals
- a 10 b 12 c 6 d 4
- 26 If $\{2\} \cap \{x\} = \{2\}$, then $x =$
- a 22 b 2 c zero d $\emptyset$
- 27 $-2 + 6 =$
- a 4 b -4 c 8 d -8
- 28 If $x = 2y$ and $y = 15$, then the numerical value of the expression:
 $x + 2y + 5$ equals
- a 40 b 60 c 30 d 65
- 29 If **0.8**, x , **4** and **5** are in proportion, then $x =$
- a 0.1 b 2 c 1 d 0.2
- 30 If $x \in \{2, 5, 8\}$, what is the value that cannot be x ?
- a 2 b 3 c 5 d 8
- 31 If $\{15, x\} \cap \{5, 1\} = \{5\}$, then $x =$
- a 15 b 5 c 1 d zero

32 $|-5| + \dots = 0$

- a -5 b 5 c 0 d 1

33 The result of adding the two expressions: $-2a - b - 3c$ and $b + 2a - 3c$ is $\dots$.

- a $-6c$ b zero c $6c$ d $2b - 4a + 6c$

34 If $5a = 7b$, then $\frac{a}{b} = \dots$.

- a $\frac{5}{7}$ b $\frac{7}{5}$ c $\frac{2}{5}$ d $\frac{5}{2}$

35 If $x \notin \{3, 4, 1\}$, which of the following can be x ?

- a 1 b 2 c 3 d 4

36 If $\{5, 3\} \cap \{3, 9\} = \{x\}$, then $x = \dots$.

- a 9 b 35 c 5 d 3

37 $[8 + (-3)] \times (-3) = \dots$.

- a 15 b -15 c 72 d -72

38 The expression $2y - 3x$ exceeds $3x + 2y$ by $\dots$.

- a $-4y$ b $-6x$ c $6x$ d $4y$

39 If the length in the drawing is 2 cm and the real length is 6 m, what is the scale drawing?

- a $1 : 3$ b $1 : 30$ c $1 : 300$ d $1 : 3,000$

40 If $A = \{2, 5, 8\}$, which of the following is correct?

- a $\{2\} \in A$ b $\{2\} \notin A$ c $\{5\} \subset A$ d $\{8, 5\} \not\subset A$

41 If $\{1, 5, 6\} \cap \{5, x, 3\} = \{5, 6\}$, then $x = \dots$.

- a 1 b 3 c 5 d 6

42 $\text{Zero} \div (-3) = \dots$.

- a $\frac{1}{3}$ b -3 c 1 d Zero

43 The additive inverse of the expression $4x - 3y + 2$ is $\dots$.

- a $-4x - 3y + 8$ b $-4x + 3y + 2$ c $-4x + 3y - 2$ d $4x + 3y - 2$

- 44 If the scale drawing is $1 : 1,000$ and the length in the drawing is 2.5 cm, what is the real length in meters?
- a 0.25 meter b 25 meters c 2.5 meters d 250 meters
- 45 If $A = \{4, 2, 7\}$, and $B \subset A$, which of the following can be the set B ?
- a $\{4, 6\}$ b $\{1, 3, 5\}$ c $\{4, 3, 7\}$ d $\{7, 2\}$
- 46 $\{1, 9\} \dots\dots \{1, 2, 3, \dots\dots, 11\}$
- a $\in$ b $\notin$ c $\subset$ d $\not\subset$
- 47 $0 \times (-1) \times (-2) \times (-3) = \dots\dots\dots$
- a 0 b -6 c -5 d 6
- 48 The result of adding the two expression $2a - 1$ and $-3a + 5$ is $\dots\dots\dots$
- a $-5a + 4$ b $4 - a$ c $a - 4$ d $a + 4$

Second: Complete the following:

- 1 $A \times (B + C) = \dots\dots\dots + A \times C$ 2 $7 + \dots\dots\dots = 0$
- 3 If $a \in X$ or $a \in Y$, then $a \in \dots\dots\dots$
- 4 The value of the expression $(4X - 10)$ if $X = 1$ equals $\dots\dots\dots$
- 5 $\frac{9}{25} = \dots\dots\dots\%$ 6 $(-9) + \dots\dots\dots = (-9)$
- 7 If $a \in X$ and $a \in Y$, then $a \in \dots\dots\dots$ 8 $(\dots\dots\dots) - (a + b) = -3a + 2b$
- 9 $\frac{73}{1000} = \dots\dots\dots\%$ 10 $(5 + (-8)) + 7 = 5 + (\dots\dots\dots + 7)$
- 11 If $X \cap Y = \emptyset$, then two sets X and Y are $\dots\dots\dots$
- 12 The constant term in the algebraic expression $3xy + 7y - 2$ is $\dots\dots\dots$
- 13 $0.3 = \dots\dots\dots$ (in the form of $\frac{a}{b}$)
- 14 The multiplicative identity in z is $\dots\dots\dots$
- 15 If $X \cup Y = \emptyset$, then two sets X and Y are $\dots\dots\dots$
- 16 The number of terms in the algebraic expression $3xy$ is $\dots\dots\dots$

- 17 $\frac{3}{4} = \dots\dots\dots$ (in the decimal form)
- 18 The product of two integers with different signs is a $\dots\dots\dots$ integer.
- 19 If $X \subset Y$, then $X \cap Y = \dots\dots\dots$, $X \cup Y = \dots\dots\dots$
- 20 The like term of the term XY^2 in the algebraic expression $y^2x - 3xy + 7yx^2$ is $\dots\dots\dots$.
- 21 $\frac{2}{3} = \dots\dots\dots$ (in the decimal form)
- 22 $8 \times \dots\dots\dots = 0$
- 23 If $X = Y = \emptyset$, then $X \cap Y = \dots\dots\dots$, $X \cup Y = \dots\dots\dots$
- 24 $3b + 5a - 2b - 5a$ in the simplest form equals $\dots\dots\dots$.
- 25 The additive identity in Q is $\dots\dots\dots$
- 26 $|-42| \div |-7| = \dots\dots\dots$ 27 $X \cap \emptyset = \dots\dots\dots$
- 28 The result of subtracting $-8x$ from $7x$ is $\dots\dots\dots$.
- 29 The additive inverse of -3.5 is $\dots\dots\dots$
- 30 $3 \times |-24| = \dots\dots\dots$ 31 $X \cup \emptyset = \dots\dots\dots$
- 32 The algebraic term that, if added to $-5a$, the result will be $2a$ is $\dots\dots\dots$.
- 33 The multiplicative identity in Q is $\dots\dots\dots$
- 34 $-4 \times [3 + (-1)] = \dots\dots\dots$ 35 $X \cap X = \dots\dots\dots$
- 36 The algebraic term that, if subtracted from $6x$, the result will be $-3x$ is $\dots\dots\dots$.
- 37 The multiplicative inverse of 0.8 is $\dots\dots\dots$
- 38 If $a = 3$, and $b = -2$, then the value of $3ab$ is $\dots\dots\dots$
- 39 If $\{x, 3\} \subset \{3, 5\}$, then $x = \dots\dots\dots$
- 40 The algebraic term $-2Y$ exceeds the algebraic term $2Y$ by $\dots\dots\dots$.

Third: Answer the following:

- 1 A car uses 5 litres of petrol to cover a distance of 40 km. How much petrol would the car need to cover the distance of 128 km if it travels at the same rate?
-

2 Add:

$$\begin{array}{r} 4x - 7y + 8 \\ + -3x + 5y - 3 \\ \hline \end{array}$$

.....

- 3 If an item price was reduced from 1,500 LE to 1,200 LE, what is the deduction rate?
-

4 Subtract:

$$\begin{array}{r} 2x - 3y + 5 \\ - -x + 3y - 3 \\ \hline \end{array}$$

.....

- 5 The ratio between two numbers is 2 : 5. If the smaller number is 48, what is the larger number?
-

- 6 Express the following mathematically:

Sally's age 5 years ago if she is now x years old?

.....

- 7 If the real distance between Cairo and Damietta is 200 km and the distance between them on the map is 5 cm, find the map's scale drawing.
-

- 8 Express the following mathematically:

The arithmetic mean of the two numbers X and Y is not less than 18.

.....

- 9 A meal costs 150 LE, and 18% of the cost is added as the meal's profit. What is the meal's sale price?

.....

- 10 Express the following mathematically: What is the perimeter (p) of a triangle if the lengths of its sides are a , b , and c ?

.....

- 11 If the Alfa TV price after deduction rate of 16% is 12,600 LE, what is the TV price before deduction?

.....

- 12 Express the following mathematically: A rectangle with dimensions x and y , whose perimeter is 36 centimeters.

.....

- 13 If $\{3, 6, 7, x\} = \{6, y, 3, 5\}$, what is the value of $y - x$?

.....

- 14 Write the following algebraic expressions in their simplest forms:

a $7m - 2n - 7m + 1$

.....

b $-2n + 3(n - 1)$

.....

- 15 Find all proper subsets of $\{2, 3, 5\}$

.....

- 16 Find the value of each of the following expressions, given that $a = 8$, $b = 3$, and $f = -1$:

a $\frac{-a}{4}$

.....

b $b^2 - 2f$

.....

- 17 Use the addition properties to find result:

$$\begin{aligned} -6 + (-13) + 6 &= \text{.....} \quad (\text{..... Pro}) \\ &= \text{.....} \quad (\text{..... Pro}) \\ &= \text{.....} \quad (\text{..... Pro}) \end{aligned}$$

- 18 The number of girls in a school is $(8x + 15)$, and the number of boys is $(7x - 10)$. Write the mathematical expression that expresses the increase in the number of girls compared to the number of boys in the school.
-

- 19 Find the value of x in each of the following:

a $\frac{-5}{12} - (-\frac{7}{6}) = \frac{1}{6} + x$

.....

b $\frac{2}{7} - (-\frac{11}{21}) = \frac{11}{21} - x$

.....

- 20 Write the expression: $2(n - 3m) - 3(2n - 1)$ in the simplest form, and then find its value if $m = -2$ and $n = 2$.
-

Guide Answers

First

- | | | |
|-----------------------|----------------|------------------|
| 1 6 | 2 0.9 cm | 5 $x + 2$ |
| 3 $\{2, 6, 7, 8, 9\}$ | 4 $40 + (-18)$ | 8 $\{6\}$ |
| 6 2.5 | 7 90 km | 11 10 |
| 9 $(-2) \times 5$ | 10 $7x, x$ | 16 6 |
| 12 $1 : 60,000$ | 13 4 | 19 $3x$ |
| 14 $-5 + 8$ | 15 $2a + 3a$ | 22 3 |
| 17 $\frac{1}{50,000}$ | 18 5 | 25 6 |
| 20 90 | 21 $150 : 1$ | 28 65 |
| 23 0 | 24 $2a$ | 31 5 |
| 26 2 | 27 4 | 34 $\frac{7}{5}$ |
| 29 1 | 30 3 | 37 -15 |
| 32 -5 | 33 $-6c$ | 42 Zero |
| 35 2 | 36 3 | 47 0 |
| 38 $-6x$ | 39 $1 : 300$ | |
| 40 $\{5\} \subset A$ | 41 6 | |
| 43 $-4x + 3y - 2$ | 44 25 meters | |
| 45 $\{7, 2\}$ | 46 $\subset$ | |
| 48 $4 - a$ | | |

Second

- | | | |
|---------------------------------|---------------------|-------------------|
| 1 $A \times B$ | 2 (-7) | 5 36% |
| 3 $X \cup Y$ | 4 -6 | 10 -8 |
| 6 0 | 7 $X \cap Y$ | 13 $\frac{3}{10}$ |
| 8 $-2a + 3b$ | 9 7.3% | 16 1 |
| 11 disjoint | 12 -2 | 19 X, Y |
| 14 1 | 15 empty sets | 22 0 |
| 17 0.75 | 18 negative | 25 0 |
| 20 $y^2 x$ | 21 $0.\overline{6}$ | 28 $15x$ |
| 23 $\emptyset, \emptyset$ | 24 b | 31 X |
| 26 6 | 27 $\emptyset$ | 34 -8 |
| 29 3.5 | 30 72 | |
| 32 $7a$ | 33 1 | |
| 35 X | 36 $9x$ | |
| 37 $\frac{10}{8} = \frac{5}{4}$ | 38 -18 | |
| 40 $-4y$ | | |

Third

- 1 $\frac{5}{x} = \frac{40}{128}$
The distance = $\frac{3 \times 128}{40} = 16$ litres

- 2 $x - 2y + 5$
- 3 The deduction = $1,500 - 1,200 = 300$ LE
The deduction rate = $\frac{300}{1,500} \times 100\% = 20\%$
- 4 $3x - 6y + 8$
- 5 The value of each part = $48 \div 2 = 24$
The larger number = $5 \times 24 = 120$
- 6 $x - 5$
- 7 $200 \text{ Km} = 200 \times 100,000 = 20,000,000 \text{ Cm}$
Scale drawing = $5 \div 20,000,000 = 1 : 4,000,000$
- 8 $\frac{x+y}{2} \geq 18$
- 9 18% of the cost (profit) = $\frac{150 \times 18}{100} = 27$ LE
The meal's sale price = $150 + 27 = 177$ LE
- 10 $P = a + b + c$
- 11 The percentage of price after deduction
= $100\% - 16\% = 84\%$
The price before deduction
= $12,600 \times \frac{100}{84} = 15,000$ LE
- 12 $2x + 2y = 36$
- 13 $x = 5, y = 7, y - x = 7 - 5 = 2$
- 14 a $-2n + 1$
b $-2n + 3n - 3 = n - 3$
- 15 $\{2\}, \{3\}, \{5\}, \{2, 3\}, \{3, 5\}$
 $\{2, 5\}, \{2, 3, 5\}, \emptyset$
- 16 a $\frac{-a}{4} = \frac{-8}{4} = -2$
b $b^2 - 2f = 3^2 - 2 \times (-1) = 9 - (-2)$
= $9 + 2 = 11$
- 17 $-6 + 6 + (-13)$ (Commutative Pro.)
= $[-6 + 6] + (-13)$ (Associative Pro.)
= $0 + (-13)$ (Additive Identity Pro.)
= -13
- 18 The increase = $(8x + 15) - (7x - 10)$
= $8x + 15 - 7x + 10$
= $x + 25$
- 19 a $\frac{-5}{12} + \frac{14}{12} = \frac{2}{12} + x$
 $\frac{9}{12} = \frac{2}{12} + x \rightarrow x = \frac{7}{12}$
b $\frac{6}{21} + \frac{11}{21} = \frac{11}{21} - x$
 $x = \frac{-6}{21} = \frac{-2}{7}$
- 20 $2n - 6m - 6n + 3 = -6m - 4n + 3$
= $(-6) \times (-2) - 4 \times (2) + 3 = 12 - 8 + 3 = 7$

حمل الآن

مجاناً وحصرياً

المراجعة رقم (4)

اختبار شهر اكتوبر



Q1: Choose the correct answer

1 The first proportional of 12 , 3 and 4 is

- (a) 15 (b) 9 (c) 7 (d) 3

2 If $A = \{ 5 , 7 , 2 \}$, Then $57 \dots\dots\dots A$

- (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$

3 If $\frac{3}{2} = \frac{9}{b+1}$, then $\frac{1}{5}b = \dots\dots\dots$

- (a) 5 (b) 10 (c) 25 (d) 1

4 If $\frac{x}{7} = \frac{10}{35}$, then $x - 3 = \dots\dots\dots$

- (a) -1 (b) 1 (c) 2 (d) -2

5 If $a : b : c = 4 : 5 : 3$, and $b - c = 9$, Then the value of $a = \dots\dots\dots$

- (a) 9 (b) 18 (c) 15 (d) 21

6 The number of subsets of the set $\{0 , 2 , 9\}$ is

- (a) 3 (b) 6 (c) 8 (d) 9

7 $\frac{1}{4} \div 25\% = \dots\dots\dots$

- (a) 0 (b) 1 (c) $\frac{1}{16}$ (d) 16

8 Which of the following drawing scales represent enlargement?

- (a) 1 : 20 (b) 5 : 23 (c) 7 : 3 (d) 4 : 35

9 $8 + (-10) > \dots\dots\dots$

- (a) 2 (b) -2 (c) 0 (d) -4

10 Farida went to restaurant, she bought a meal for 250 L.E, and there is 14% extra service, so she paid L.E

- (a) 285 (b) 264
(c) 288 (d) 35



11 If the price of a Tv is 9,800 L.E and after dicount the price became 8,624
Then the percent of discount is %

- (a) 12 (b) 1,176 (c) 6 (d) 24

12 The multiplicative identity is

- (a) 0 (b) 1 (c) -1 (d) 2

13 If $a + b = 0$, where $a \neq b$, then $a \times b$ zero.

- (a) > (b) < (c) = (d) $\geq$

14 The neutral element of addition in Z is

- (a) 0 (b) 1 (c) -1 (d) 2

15 If $18k = 6m$, then $\frac{m}{k} =$

- (a) $\frac{1}{3}$ (b) $\frac{1}{6}$ (c) 3 (d) 6

16 If $a = |-5|$, $b = -7$, then $a \times b =$

- (a) 35 (b) -35 (c) -7 (d) 5

17 If $\frac{|a|}{7} = 6$, then $a =$

- (a) 24 (b) -42 (c) 42 (d) ± 42

18 The additive inverse of $-2\frac{1}{5}$ is

- (a) $5\frac{1}{2}$ (b) $\frac{5}{11}$ (c) $\frac{11}{5}$ (d) $-\frac{11}{5}$

19 If $x : y = 3 : 4$, and the sum of x and y is 21, Then their difference is

- (a) 21 (b) 3 (c) 9 (d) 12

20 If the length of an insect is 0.4 mm and its length after magnification is 6 cm,
What is the magnification ratio?

- (a) 1 : 15 (b) 15 : 1
(c) 1 : 150 (d) 150 : 1



21 Ahmed draw a picture of his brother with drawing scale 1 : 20, If the length in the picture was 7 cm, then the real length = m

- (a) 140 (b) 14 (c) 1.4 (d) 180

22 $\emptyset$ $\{0, 100\}$

- (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$

23 A sum of money 420 L.E was distributed between Murad and Farida in the ratio 2 : 5, then the share of Farida is L.E

- (a) 120 (b) 280 (c) 300 (d) 720

24 If $\frac{x+4}{6} = \frac{7}{14}$, The x =

- (a) -7 (b) 7 (c) -1 (d) 1

25 If 0.8, x, 4 and 5 are in a proportion, then x =

- (a) 0.1 (b) 2 (c) 1 (d) 0.2

26 If the height of a tree in a picture of scale 1 : 100 is 1.5 cm. Then the real height of this tree is

- (a) 15 cm (b) 15 m (c) 0.15 m (d) 1.5 m

27 $\{1, 2, 3, 5, 7, 13\}$ the set of prime number

- (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$

28 If $B \subset A$ and $A = \{1, 3, 4\}$, which of the following could be set B?

- (a) $\{5, 3, 4\}$ (b) $\{2, 4\}$ (c) $\{1, 4\}$ (d) $\{1, 2, 4\}$

29 A trader sold his goods with a 15% gain, Then the percent of selling price to cost price is :

- (a) 23 : 20 (b) 20 : 23
(c) 15 : 100 (d) 100 : 15



30 Four times a number is 64, then $\frac{1}{2}$ of this number equals

(a) 2

(b) 4

(c) 8

(d) 16

31 $m + 7 = 0$, then $m =$

(a) 0

(b) 3

(c) -7

(d) $\frac{1}{7}$

32 The result of subtracted $\frac{-5}{7}$ from $\frac{3}{14}$ equals

(a) $\frac{3}{14}$

(b) $\frac{13}{14}$

(c) $\frac{-1}{2}$

(d) $\frac{1}{2}$

33 If $\frac{x}{y} = \frac{5}{7}$, then $\frac{7x}{5y} =$

(a) $\frac{5}{7}$

(b) 1

(c) $\frac{7}{5}$

(d) $\frac{1}{5}$

34 $1 - 77\% =$

(a) 23

(b) 0.23

(c) 32%

(d) 77%

35 $-3 \frac{1}{4} \times$ = 1

(a) $\frac{13}{4}$

(b) $\frac{4}{13}$

(c) $\frac{-4}{13}$

(d) $\frac{-13}{4}$

36 If the real length of an insect is 0.7 mm. and its length after magnification is 6.3 cm then the ratio of magnification is

(a) 9 : 1

(b) 90 : 1

(c) 900 : 1

(d) 9,000 : 1

37 -3 exceeds 5 by amount of

(a) -8

(b) -2

(c) 2

(d) 8

38 The multiplicative inverse of the number $|\frac{-3}{4}|$ is

(a) $\frac{4}{3}$

(b) $\frac{3}{4}$

(c) $\frac{-4}{3}$

(d) $\frac{-3}{4}$

39 If the length in drawing is 3 cm, and the length in real is 18 m, Then the drawing scale is

(a) 1 : 6,000

(b) 1 : 600

(c) 1 : 60

(d) 1 : 6



Q2: Answer The Following

1 A picture of a building is taken with a drawing scale 1 : 100, if the height of the building in the picture is 3 cm, What is its real height?

2 If $X \subset Y$, Then $X \cup Y = \dots\dots\dots$.

3 Maryam reads 20 pages of the book in 45 minutes. How many hours would it take to read 80 pages if you read at the same rate?

4 $-m + m = 0$ is called property

5 If $\{5, 7\} \cap \{x + 1, 5\} = \{7\}$, then $x = \dots\dots\dots$.

6 Alaa purchased a mobile phone for 16,600 L.E and sold it for 17,762 L.E
Calculate the percent of Alaa's profit.

7 If $12 \in \{3, 5, 2x\}$, then $x = \dots\dots\dots$.

8 $a = -2$, $b = |-7|$, then $2ab = \dots\dots\dots$.

9 If the drawing scale < 1 , this expresses

10 If $\{5, 3, x\} = \{2, 5, y\}$, what is the value of $2x + y$?

11 The second proportional of 6, 10, 3 is



- 12 A car uses 5 liters of gasoline to travel 40 km. How much gasoline does the car need to travel 128 km if it travels at the same rate?

- 13 Drawing > 1 , then it expresses

- 14 If $A = \{9, 10, 8\}$, $B = \{4, 9, 7\}$, $C = \{1, 9\}$ find:

a $A \cap B \cap C$

b $A \cup (B \cap C)$

- 15 Ahmad drew a picture of his brother Abdul Rahman with a drawing scale of 1 :40. If Abdul Rahman's height is 160 cm, what is his height in the picture?

16 $2 \frac{3}{5} \times \dots = 1$

17 $Z_+ \cap Z_- = \dots$

- 18 The rational number which has no multiplicative inverse is

19 $\frac{3}{4}$ exceeds $\frac{3}{8}$ by

20 Three times a number is 27, then $\frac{1}{3}$ this number =

21 If $A = 2$, $B = -4$, $C = -3$ find the numerical value of: $(\frac{3B}{A}) \times C$

22 $\{3\} \dots \{33\}$

23 If $X \subset Y$, Then $X \cap Y = \dots$



24 If two ratio equal, then the product of extremes the product of means

25 If the ratio of the lengths of the sides of a triangle with a perimeter of 135 cm is 7 : 5 : 3, find the length of the smallest side

26 If the discount rate is 20% on any item inside a clothing store, what is the purchase price of pants that cost 500 pounds before the discount?

27 Three people participated in a trade, the first paid 70,000 pounds, and the second paid 80,000 pounds. The third payment 90,000 pounds and profits at the end of the year were 96,000 pounds. Calculate their share of the profit at the end of the year.

28 If 5 , $x - 1$, 3 , 9 are in proportion, then $x =$

29 The result of subtracting 9 from (-5) is

30 If the drawing scale is 1 : 2,000,000 and the map length is 3 cm,
Then the real length = km

31 The additive inverse of $(-|-7|)$ is

32 If $x \div y = 1$, then $x =$

33 If $\frac{7}{9} = \frac{5}{y}$, then $7 \times y =$ $\times$



34 If $X = \{7, 5, 4, 1\}$, $Y = \{9, 4, 5, 2\}$, $Z = \{2, 10\}$, Find:

a $X \cap Y = \dots\dots\dots$

b $Y \cup Z = \dots\dots\dots$

c $\{4, 5, 6\} \dots\dots\dots Y$

d $\{2\} \dots\dots\dots Z$

e $(X \cap Y) \cup Z = \dots\dots\dots$

f $(Z \cap Y) \cap X = \dots\dots\dots$

35 Murad deposit 75,000 L.E in Al-Ahly bank, with annual interest 23%
Find the total amount which he gets at the end of one year.

36 By using multiplicative properties, Find the value of each of the following:

a $-\frac{3}{7} \times 8 + 5 \times (-\frac{3}{7}) + (-\frac{3}{7})$

a $\frac{3}{4} \times 35 + 35 \times \frac{1}{2} - 35 \times \frac{1}{4}$

37 A shopkeeper bought some goods for 45,000 L.E. He spent 5,000 L.E
to transport them. He sold these goods for 62,500 L.E, Find percentage of profit

38 Find in its simplest form the value of: $(\frac{3}{11} + \frac{1}{11}) \div \frac{4}{33}$

39 If the number of students in a school is 650, and the ratio between numbers of boys and girls is 6 : 7, calculate the excess number of girls over the number of boys?



Q1: Choose the correct answer

1 Which of the following algebraic terms is like the algebraic term $2x^2y^2$?

(a) $2y^2x$

(b) yx^2

(c) $2x^2$

(d) x^2y^2

2 $4x$ increases ($-4x$) by

(a) zero

(b) $8x$

(c) $-8x$

(d) $16x$

3 $k + k + k = \dots\dots\dots$

(a) k^3

(b) $3k$

(c) $3k^3$

(d) $k + 3$

4 $2x^2 + 4x^2 = \dots\dots\dots$

(a) $6x^4$

(b) $6x^2$

(c) $8x^2$

(d) $8y^4$

5 The additive inverse of $x - 5$ is

(a) $x - 5$

(b) $-x - 5$

(c) $-x + 5$

(d) 5

6 $7x + 5y + z$ increases $2x - y + z$ by

(a) $5x + 4y + 2z$

(b) $5x + 6y$

(c) $9x + 4y$

(d) $9x - 6y - 2z$

7 The sum of $x + 2y - 3z$ and $-2y - x - 3z$ is

(a) $-6z$

(b) zero

(c) $6z$

(d) $2x - 4y + 6z$

8 The expression: $2x + 3y$ exceeds $3y - 2x$ by

(a) $-6y$

(b) $-4x$

(c) $4x$

(d) $6y$

9 The result of subtracting $7a$ from $15a$ is

(a) $-8a$

(b) $8a$

(c) $8a^2$

(d) $-22a$



Q2: Answer The Following

- 1 Add the expressions: $3a - 2b$ and $2a + 5b$ then find the numerical values of the result when $a = 2$ and $b = 1$.

- 2 Simplify: $5(a - 2b) + 3(4a + b)$ in its simplest form

- 3 $2a^2 - 3ab - 5b^2$ decreases $4a^2 + 3b^2 + ab$ by

- 4 The coefficient of the algebraic term $-3k^3$ is

- 5 The perimeter of the rectangle whose dimensions are $7y$, $4y$ is

- 6 The decrease of $-3ab$ than $2ab$ is

- 7 $5a^2b - \dots = 7a^2b$

- 8 $5x$ increases $(-5x)$ by

- 9 Write the following expressions in the simplest form:

Ⓐ $-5x - 7y - 7x - 2y + 7y - 3x$

Ⓑ $2(3x - 4) - 3(x - 2)$

- 10 Simplify: $2a + 3b - 3a + 4b$ in its simplest form.



Q1: Choose the correct answer

1 The first proportional of 12 , 3 and 4 is

a 15

b 9

c 7

d 3

2 If $A = \{ 5 , 7 , 2 \}$, Then 57 A

a $\in$

b $\notin$

c $\subset$

d $\not\subset$

3 If $\frac{3}{2} = \frac{9}{b+1}$, then $\frac{1}{5}b = \dots\dots\dots$

a 5

b 10

c 25

d 1

4 If $\frac{x}{7} = \frac{10}{35}$, then $x - 3 = \dots\dots\dots$

a -1

b 1

c 2

d -2

5 If $a : b : c = 4 : 5 : 3$, and $b - c = 9$, Then the value of a =

a 9

b 18

c 15

d 21

6 The number of subsets of the set $\{0 , 2 , 9\}$ is

a 3

b 6

c 8

d 9

7 $\frac{1}{4} \div 25\% = \dots\dots\dots$

a 0

b 1

c $\frac{1}{16}$

d 16

8 Which of the following drawing scales represent enlargement?

a 1 : 20

b 5 : 23

c 7 : 3

d 4 : 35

9 $8 + (-10) > \dots\dots\dots$

a 2

b -2

c 0

d -4

10 Farida went to restaurant, she bought a meal for 250 L.E, and there is 14% extra service, so she paid L.E

a 285

b 264

c 288

d 35



11 If the price of a Tv is 9,800 L.E and after dicount the price became 8,624
Then the percent of discount is %

☒ a 12

☐ b 1,176

☐ c 6

☐ d 24

12 The multiplicative identity is

☐ a 0

☒ b 1

☐ c -1

☐ d 2

13 If $a + b = 0$, where $a \neq b$, then $a \times b$ zero.

☐ a >

☒ b <

☐ c =

☐ d $\geq$

14 The neutral element of addition in Z is

☒ a 0

☐ b 1

☐ c -1

☐ d 2

15 If $18k = 6m$, then $\frac{m}{k} =$

☐ a $\frac{1}{3}$

☐ b $\frac{1}{6}$

☒ c 3

☐ d 6

16 If $a = |-5|$, $b = -7$, then $a \times b =$

☐ a 35

☒ b -35

☐ c -7

☐ d 5

17 If $\frac{|a|}{7} = 6$, then $a =$

☐ a 24

☐ b -42

☐ c 42

☒ d ± 42

18 The additive inverse of $-2\frac{1}{5}$ is

☐ a $5\frac{1}{2}$

☐ b $\frac{5}{11}$

☒ c $\frac{11}{5}$

☐ d $-\frac{11}{5}$

19 If $x : y = 3 : 4$, and the sum of x and y is 21, Then their difference is

☐ a 21

☒ b 3

☐ c 9

☐ d 12

20 If the length of an insect is 0.4 mm and its length after magnification is 6 cm,
What is the magnification ratio?

☐ a 1 : 15

☐ b 15 : 1

☐ c 1 : 150

☒ d 150 : 1



21 Ahmed draw a picture of his brother with drawing scale 1 : 20, If the length in the picture was 7 cm, then the real length = m

a 140

b 14

c 1.4

d 180

22 $\emptyset$ $\{0, 100\}$

a $\in$

b $\notin$

c $\subset$

d $\not\subset$

23 A sum of money 420 L.E was distributed between Murad and Farida in the ratio 2 : 5, then the share of Farida is L.E

a 120

b 280

c 300

d 720

24 If $\frac{x+4}{6} = \frac{7}{14}$, The x =

a -7

b 7

c -1

d 1

25 If 0.8, x, 4 and 5 are in a proportion, then x =

a 0.1

b 2

c 1

d 0.2

26 If the height of a tree in a picture of scale 1 : 100 is 1.5 cm. Then the real height of this tree is

a 15 cm

b 15 m

c 0.15 m

d 1.5 m

27 $\{1, 2, 3, 5, 7, 13\}$ the set of prime number

a $\in$

b $\notin$

c $\subset$

d $\not\subset$

28 If $B \subset A$ and $A = \{1, 3, 4\}$, which of the following could be set B?

a $\{5, 3, 4\}$

b $\{2, 4\}$

c $\{1, 4\}$

d $\{1, 2, 4\}$

29 A trader sold his goods with a 15% gain, Then the percent of selling price to cost price is :

a 23 : 20

b 20 : 23

c 15 : 100

d 100 : 15



30 Four times a number is 64, then $\frac{1}{2}$ of this number equals

(a) 2

(b) 4

(c) 8

(d) 16

31 $m + 7 = 0$, then $m =$

(a) 0

(b) 3

(c) -7

(d) $\frac{1}{7}$

32 The result of subtracted $\frac{-5}{7}$ from $\frac{3}{14}$ equals

(a) $\frac{3}{14}$

(b) $\frac{13}{14}$

(c) $\frac{-1}{2}$

(d) $\frac{1}{2}$

33 If $\frac{x}{y} = \frac{5}{7}$, then $\frac{7x}{5y} =$

(a) $\frac{5}{7}$

(b) 1

(c) $\frac{7}{5}$

(d) $\frac{1}{5}$

34 $1 - 77\% =$

(a) 23

(b) 0.23

(c) 32%

(d) 77%

35 $-3 \frac{1}{4} \times$ = 1

(a) $\frac{13}{4}$

(b) $\frac{4}{13}$

(c) $\frac{-4}{13}$

(d) $\frac{-13}{4}$

36 If the real length of an insect is 0.7 mm. and its length after magnification is 6.3 cm then the ratio of magnification is

(a) 9 : 1

(b) 90 : 1

(c) 900 : 1

(d) 9,000 : 1

37 -3 exceeds 5 by amount of

(a) -8

(b) -2

(c) 2

(d) 8

38 The multiplicative inverse of the number $|\frac{-3}{4}|$ is

(a) $\frac{4}{3}$

(b) $\frac{3}{4}$

(c) $\frac{-4}{3}$

(d) $\frac{-3}{4}$

39 If the length in drawing is 3 cm, and the length in real is 18 m, Then the drawing scale is

(a) 1 : 6,000

(b) 1 : 600

(c) 1 : 60

(d) 1 : 6



Q2: Answer The Following

- 1 A picture of a building is taken with a drawing scale 1 : 100, if the height of the building in the picture is 3 cm, What is its real height?

Real height = 3 meters

- 2 If $X \subset Y$, Then $X \cup Y = \dots\dots\dots$ **Y** .

- 3 Maryam reads 20 pages of the book in 45 minutes. How many hours would it take to read 80 pages if you read at the same rate?

180 minutes = 3 hours.

- 4 $-m + m = 0$ is called **additive inverse** property

- 5 If $\{5, 7\} \cap \{x + 1, 5\} = \{7\}$, then $x = \dots\dots\dots$ **6** .

- 6 Alaa purchased a mobile phone for 16,600 L.E and sold it for 17,762 L.E
Calculate the percent of Alaa's profit.

Profit percent = 7 %

- 7 If $12 \in \{3, 5, 2x\}$, then $x = \dots\dots\dots$ **6** .

- 8 $a = -2$, $b = |-7|$, then $2ab = \dots\dots\dots$ **-28** .

- 9 If the drawing scale < 1 , this expresses **Reduction** .

- 10 If $\{5, 3, x\} = \{2, 5, y\}$, what is the value of $2x + y$?

7

- 11 The second proportional of 6, 10, 3 is **1.8** .



- 12 A car uses 5 liters of gasoline to travel 40 km. How much gasoline does the car need to travel 128 km if it travels at the same rate?

16 Litre

- 13 Drawing > 1 , then it expresses **Enlargement**

- 14 If $A = \{9, 10, 8\}$, $B = \{4, 9, 7\}$, $C = \{1, 9\}$ find:

a) $A \cap B \cap C$

{9}

b) $A \cup (B \cap C)$

{9, 10, 8}

- 15 Ahmad drew a picture of his brother Abdul Rahman with a drawing scale of 1 :40. If Abdul Rahman's height is 160 cm, what is his height in the picture?

4 cm

16 $2 \frac{3}{5} \times \dots \frac{5}{13} \dots = 1$

17 $\mathbb{Z}_+ \cap \mathbb{Z}_- = \dots \emptyset \dots$

- 18 The rational number which has no multiplicative inverse is **0**

19 $\frac{3}{4}$ exceeds $\frac{3}{8}$ by **$\frac{3}{8}$**

- 20 Three times a number is 27, then $\frac{1}{3}$ this number = **3**

21 If $A = 2$, $B = -4$, $C = -3$ find the numerical value of: $(\frac{3B}{A}) \times C$

18

22 $\{3\} \dots \notin \dots \{33\}$

23 If $X \subset Y$, Then $X \cap Y = \dots \mathbf{X} \dots$



equal

24 If two ratio equal, then the product of extremes the product of means

25 If the ratio of the lengths of the sides of a triangle with a perimeter of 135 cm is 7 : 5 : 3, find the length of the smallest side

27 cm

26 If the discount rate is 20% on any item inside a clothing store, what is the purchase price of pants that cost 500 pounds before the discount?

400 pounds

27 Three people participated in a trade, the first paid 70,000 pounds, and the second paid 80,000 pounds. The third payment 90,000 pounds and profits at the end of the year were 96,000 pounds. Calculate their share of the profit at the end of the year.

Profit shares: 28,000; 32,000; 36,000

28 If 5 , $x - 1$, 3 , 9 are in proportion, then $x =$ 16

29 The result of subtracting 9 from (-5) is -14

30 If the drawing scale is 1 : 2,000,000 and the map length is 3 cm,
Then the real length = 60 km

31 The additive inverse of $(-|-7|)$ is 7

32 If $x \div y = 1$, then $x =$ y

33 If $\frac{7}{9} = \frac{5}{y}$, then $7 \times y =$ 5 $\times$ 9



34 If $X = \{7, 5, 4, 1\}$, $Y = \{9, 4, 5, 2\}$, $Z = \{2, 10\}$, Find:

a $X \cap Y = \{4, 5\}$

b $Y \cup Z = \{2, 4, 5, 9, 10\}$

c $\{4, 5, 6\} \not\subset Y$

d $\{2\} \subset Z$

e $(X \cap Y) \cup Z = \{2, 4, 5, 10\}$

f $(Z \cap Y) \cap X = \emptyset$

35 Murad deposit 75,000 L.E in Al-Ahly bank, with annual interest 23%
Find the total amount which he gets at the end of one year.

92,250 L.E

36 By using multiplicative properties, Find the value of each of the following:

a $-\frac{3}{7} \times 8 + 5 \times (-\frac{3}{7}) + (-\frac{3}{7})$

a $\frac{3}{4} \times 35 + 35 \times \frac{1}{2} - 35 \times \frac{1}{4}$

-6

35

37 A shopkeeper bought some goods for 45,000 L.E. He spent 5,000 L.E
to transport them. He sold these goods for 62,500 L.E, Find percentage of profit

25%

38 Find in its simplest form the value of: $(\frac{3}{11} + \frac{1}{11}) \div \frac{4}{33}$

3

39 If the number of students in a school is 650, and the ratio between numbers of boys and girls is 6 : 7, calculate the excess number of girls over the number of boys?

50



Q1: Choose the correct answer

1 Which of the following algebraic terms is like the algebraic term $2x^2y^2$?

☐ a $2y^2x$

☐ b yx^2

☐ c $2x^2$

☒ d x^2y^2

2 $4x$ increases $(-4x)$ by

☐ a zero

☒ b $8x$

☐ c $-8x$

☐ d $16x$

3 $k + k + k = \dots\dots\dots$

☐ a k^3

☒ b $3k$

☐ c $3k^3$

☐ d $k + 3$

4 $2x^2 + 4x^2 = \dots\dots\dots$

☐ a $6x^4$

☒ b $6x^2$

☐ c $8x^2$

☐ d $8y^4$

5 The additive inverse of $x - 5$ is

☐ a $x - 5$

☐ b $-x - 5$

☒ c $-x + 5$

☐ d 5

6 $7x + 5y + z$ increases $2x - y + z$ by

☐ a $5x + 4y + 2z$

☒ b $5x + 6y$

☐ c $9x + 4y$

☐ d $9x - 6y - 2z$

7 The sum of $x + 2y - 3z$ and $-2y - x - 3z$ is

☒ a $-6z$

☐ b zero

☐ c $6z$

☐ d $2x - 4y + 6z$

8 The expression: $2x + 3y$ exceeds $3y - 2x$ by

☐ a $-6y$

☐ b $-4x$

☒ c $4x$

☐ d $6y$

9 The result of subtracting $7a$ from $15a$ is

☐ a $-8a$

☒ b $8a$

☐ c $8a^2$

☐ d $-22a$



Q2: Answer The Following

- 1 Add the expressions: $3a - 2b$ and $2a + 5b$ then find the numerical values of the result when $a = 2$ and $b = 1$.

$5a + 3b$; value at $a=2, b=1 \rightarrow 13$

- 2 Simplify: $5(a - 2b) + 3(4a + b)$ in its simplest form

$17a - 7b$

- 3 $2a^2 - 3ab - 5b^2$ decreases $4a^2 + 3b^2 + ab$ by

$2a^2 + 8b^2 + 4ab$

- 4 The coefficient of the algebraic term $-3k^3$ is -3

- 5 The perimeter of the rectangle whose dimensions are $7y$, $4y$ is $22y$

- 6 The decrease of $-3ab$ than $2ab$ is $5ab$

- 7 $5a^2b - \dots\dots\dots = 7a^2b$

- 8 $5x$ increases $(-5x)$ by $10x$

- 9 Write the following expressions in the simplest form:

Ⓐ $-5x - 7y - 7x - 2y + 7y - 3x$

Ⓐ $2(3x - 4) - 3(x - 2)$

$-15x - 2y$

$3x - 2$

- 10 Simplify: $2a + 3b - 3a + 4b$ in its simplest form.

$-a + 7b$



حمل الآن

مجاناً وحصرياً

المراجعة رقم (5)

اختبار شهر اكتوبر





October Revision

Prep 1- 2026



First: Choose the correct answer:

1 If $\frac{2}{7} = \frac{x}{21}$, then $x =$

- a** 6 **b** 21 **c** 12 **d** 7

2 If the real length is 90 meters and the scale drawing is 1 : 10,000, what is the length in the drawing in centimeters?

- a** 0.09 cm **b** 90 cm **c** 9 cm **d** 0.9 cm

3 If $A = \{8, 9, 6\}$, and $B = \{2, 6, 7\}$, which set expresses $A \cup B$?

- a** $\{6\}$ **b** $\{2, 7\}$ **c** $\{8, 9\}$ **d** $\{2, 6, 7, 8, 9\}$

4 Which of the following sums has a positive sign?

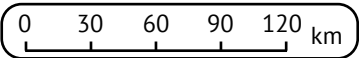
- a** $19 + (-26)$ **b** $-35 + 17$ **c** $-25 + (-12)$ **d** $40 + (-18)$

5 What is the mathematical expression for subtracting (-2) from x ?

- a** $x - 2$ **b** $2 - x$ **c** $-2 - x$ **d** $x + 2$

6 The first term in, 5, 10 and 20 is

- a** 10 **b** 2.5 **c** 40 **d** 50

7 If the scale drawing of a map is  and the

distance between two cities on the map is 3 cm, what is the real distance between them?

- a** 30 km **b** 1,200,000 cm **c** 90 km **d** 90,000 cm

8 If $A = \{8, 9, 6\}$, and $B = \{2, 6, 7\}$, which set expresses $A \cap B$?

- a** $\{6\}$ **b** $\{2, 7\}$ **c** $\{8, 9\}$ **d** $\{2, 6, 7, 8, 9\}$

9 Which of the following products has a negative sign?

- a** $-3 \times (-9)$ **b** $(-2) \times 5$ **c** $0 \times (-5)$ **d** $-1 \times (-1)$

- 10 Which of the following pairs of terms are like terms?
 a $2x, -2x^2$ b $3a, 8b$ c $7x, x$ d x^2, y^2
- 11 The fourth proportional for the numbers 7, 5 and 14 is
 a 10 b 20 c 49 d 35
- 12 The length on a map is 12 cm, and in reality it is 7.2 km; then the drawing scale is
 a 1 : 60 b 1 : 600 c 1 : 6,000 d 1 : 60,000
- 13 If $A = \{5, 7\}$, what is the number of all subset of set A ?
 a 2 b 4 c 6 d 8
- 14 Which of the following is equivalent to the subtraction operation:
 $-5 - (-8)$?
 a $-5 + 8$ b $5 + 8$ c $-5 - 8$ d $5 - 8$
- 15 Which of the following is equal to $5a$?
 a $3 + 2a$ b $2 + 3a$ c $2a + 3a$ d $5 + a$
- 16 The third term in $\frac{3.5}{7} = \frac{?}{12}$ is
 a 3 b 6 c 7 d 12
- 17 If the length of a road in the drawing is 3 cm and the real length is 1,500 meters, then the drawing scale will be
 a $\frac{1}{50}$ b $\frac{1}{500}$ c $\frac{1}{5,000}$ d $\frac{1}{50,000}$
- 18 If $x \in \{2, 5\} \cap \{5, 7, 8\}$, then $x =$
 a 2 b 5 c 7 d 8
- 19 $x + x + x =$
 a $3x^3$ b x^3 c $3 + x$ d $3x$
- 20 If $\frac{36}{x} = 0.4$, then $x =$
 a 90 b 9 c 0.9 d 0.09

- 21 If the real length of an insect is 0.3 mm and the drawing length after magnification is 4.5 cm, then the ratio of magnification will be
- a 1 : 15 b 15 : 1 c 1 : 150 d 150 : 1
- 22 If $\{4, 3\} \cap \{x, 1, 2\} = \{3\}$, then $x =$
- a 2 b 2 c 3 d 4
- 23 The additive identity in $\mathbb{Z}$ is
- a 0 b 1 c -1 d 2
- 24 $5a + (-3a) =$
- a $8a$ b $2a$ c $-2a$ d $-8a$
- 25 The third proportional to 4, 12, and 18 equals
- a 10 b 12 c 6 d 4
- 26 If $\{2\} \cap \{x\} = \{2\}$, then $x =$
- a 22 b 2 c zero d $\emptyset$
- 27 $-2 + 6 =$
- a 4 b -4 c 8 d -8
- 28 If $x = 2y$ and $y = 15$, then the numerical value of the expression:
 $x + 2y + 5$ equals
- a 40 b 60 c 30 d 65
- 29 If 0.8, x , 4 and 5 are in proportion, then $x =$
- a 0.1 b 2 c 1 d 0.2
- 30 If $x \in \{2, 5, 8\}$, what is the value that cannot be x ?
- a 2 b 3 c 5 d 8
- 31 If $\{15, x\} \cap \{5, 1\} = \{5\}$, then $x =$
- a 15 b 5 c 1 d zero

32 $|-5| + \dots = 0$

- a -5 b 5 c 0 d 1

33 The result of adding the two expressions: $-2a - b - 3c$ and $b + 2a - 3c$ is

- a $-6c$ b zero c $6c$ d $2b - 4a + 6c$

34 If $5a = 7b$, then $\frac{a}{b} = \dots$

- a $\frac{5}{7}$ b $\frac{7}{5}$ c $\frac{2}{5}$ d $\frac{5}{2}$

35 If $x \notin \{3, 4, 1\}$, which of the following can be x ?

- a 1 b 2 c 3 d 4

36 If $\{5, 3\} \cap \{3, 9\} = \{x\}$, then $x = \dots$

- a 9 b 35 c 5 d 3

37 $[8 + (-3)] \times (-3) = \dots$

- a 15 b -15 c 72 d -72

38 The expression $2y - 3x$ exceeds $3x + 2y$ by

- a $-4y$ b $-6x$ c $6x$ d $4y$

39 If the length in the drawing is 2 cm and the real length is 6 m, what is the scale drawing?

- a $1 : 3$ b $1 : 30$ c $1 : 300$ d $1 : 3,000$

40 If $A = \{2, 5, 8\}$, which of the following is correct?

- a $\{2\} \in A$ b $\{2\} \notin A$ c $\{5\} \subset A$ d $\{8, 5\} \not\subset A$

41 If $\{1, 5, 6\} \cap \{5, x, 3\} = \{5, 6\}$, then $x = \dots$

- a 1 b 3 c 5 d 6

42 $\text{Zero} \div (-3) = \dots$

- a $\frac{1}{3}$ b -3 c 1 d Zero

43 The additive inverse of the expression $4x - 3y + 2$ is

- a $-4x - 3y + 8$ b $-4x + 3y + 2$ c $-4x + 3y - 2$ d $4x + 3y - 2$

- 44 If the scale drawing is $1 : 1,000$ and the length in the drawing is 2.5 cm, what is the real length in meters?
- a 0.25 meter b 25 meters c 2.5 meters d 250 meters
- 45 If $A = \{4, 2, 7\}$, and $B \subset A$, which of the following can be the set B ?
- a $\{4, 6\}$ b $\{1, 3, 5\}$ c $\{4, 3, 7\}$ d $\{7, 2\}$
- 46 $\{1, 9\} \dots\dots \{1, 2, 3, \dots\dots, 11\}$
- a $\in$ b $\notin$ c $\subset$ d $\not\subset$
- 47 $0 \times (-1) \times (-2) \times (-3) = \dots\dots\dots$
- a 0 b -6 c -5 d 6
- 48 The result of adding the two expression $2a - 1$ and $-3a + 5$ is $\dots\dots\dots$
- a $-5a + 4$ b $4 - a$ c $a - 4$ d $a + 4$

Second: Complete the following:

- 1 $A \times (B + C) = \dots\dots\dots + A \times C$ 2 $7 + \dots\dots\dots = 0$
- 3 If $a \in X$ or $a \in Y$, then $a \in \dots\dots\dots$
- 4 The value of the expression $(4X - 10)$ if $X = 1$ equals $\dots\dots\dots$
- 5 $\frac{9}{25} = \dots\dots\dots\%$ 6 $(-9) + \dots\dots\dots = (-9)$
- 7 If $a \in X$ and $a \in Y$, then $a \in \dots\dots\dots$ 8 $(\dots\dots\dots) - (a + b) = -3a + 2b$
- 9 $\frac{73}{1000} = \dots\dots\dots\%$ 10 $(5 + (-8)) + 7 = 5 + (\dots\dots\dots + 7)$
- 11 If $X \cap Y = \emptyset$, then two sets X and Y are $\dots\dots\dots$
- 12 The constant term in the algebraic expression $3xy + 7y - 2$ is $\dots\dots\dots$
- 13 $0.3 = \dots\dots\dots$ (in the form of $\frac{a}{b}$)
- 14 The multiplicative identity in z is $\dots\dots\dots$
- 15 If $X \cup Y = \emptyset$, then two sets X and Y are $\dots\dots\dots$
- 16 The number of terms in the algebraic expression $3xy$ is $\dots\dots\dots$

- 17 $\frac{3}{4} = \dots\dots\dots$ (in the decimal form)
- 18 The product of two integers with different signs is a $\dots\dots\dots$ integer.
- 19 If $X \subset Y$, then $X \cap Y = \dots\dots\dots$, $X \cup Y = \dots\dots\dots$
- 20 The like term of the term XY^2 in the algebraic expression $y^2x - 3xy + 7yx^2$ is $\dots\dots\dots$.
- 21 $\frac{2}{3} = \dots\dots\dots$ (in the decimal form)
- 22 $8 \times \dots\dots\dots = 0$
- 23 If $X = Y = \emptyset$, then $X \cap Y = \dots\dots\dots$, $X \cup Y = \dots\dots\dots$
- 24 $3b + 5a - 2b - 5a$ in the simplest form equals $\dots\dots\dots$.
- 25 The additive identity in Q is $\dots\dots\dots$
- 26 $|-42| \div |-7| = \dots\dots\dots$ 27 $X \cap \emptyset = \dots\dots\dots$
- 28 The result of subtracting $-8x$ from $7x$ is $\dots\dots\dots$.
- 29 The additive inverse of -3.5 is $\dots\dots\dots$
- 30 $3 \times |-24| = \dots\dots\dots$ 31 $X \cup \emptyset = \dots\dots\dots$
- 32 The algebraic term that, if added to $-5a$, the result will be $2a$ is $\dots\dots\dots$.
- 33 The multiplicative identity in Q is $\dots\dots\dots$
- 34 $-4 \times [3 + (-1)] = \dots\dots\dots$ 35 $X \cap X = \dots\dots\dots$
- 36 The algebraic term that, if subtracted from $6x$, the result will be $-3x$ is $\dots\dots\dots$.
- 37 The multiplicative inverse of 0.8 is $\dots\dots\dots$
- 38 If $a = 3$, and $b = -2$, then the value of $3ab$ is $\dots\dots\dots$
- 39 If $\{x, 3\} \subset \{3, 5\}$, then $x = \dots\dots\dots$
- 40 The algebraic term $-2Y$ exceeds the algebraic term $2Y$ by $\dots\dots\dots$.

Third: Answer the following:

- 1 A car uses 5 litres of petrol to cover a distance of 40 km. How much petrol would the car need to cover the distance of 128 km if it travels at the same rate?
-

2 Add:

$$\begin{array}{r} 4x - 7y + 8 \\ + -3x + 5y - 3 \\ \hline \end{array}$$

.....

- 3 If an item price was reduced from 1,500 LE to 1,200 LE, what is the deduction rate?
-

4 Subtract:

$$\begin{array}{r} 2x - 3y + 5 \\ - - x + 3y - 3 \\ \hline \end{array}$$

.....

- 5 The ratio between two numbers is 2 : 5. If the smaller number is 48, what is the larger number?
-

- 6 Express the following mathematically:

Sally's age 5 years ago if she is now x years old?

.....

- 7 If the real distance between Cairo and Damietta is 200 km and the distance between them on the map is 5 cm, find the map's scale drawing.
-

- 8 Express the following mathematically:

The arithmetic mean of the two numbers X and Y is not less than 18.

.....

- 9 A meal costs 150 LE, and 18% of the cost is added as the meal's profit. What is the meal's sale price?
-

- 10 Express the following mathematically: What is the perimeter (p) of a triangle if the lengths of its sides are a , b , and c ?
-

- 11 If the Alfa TV price after deduction rate of 16% is 12,600 LE, what is the TV price before deduction?
-

- 12 Express the following mathematically: A rectangle with dimensions x and y , whose perimeter is 36 centimeters.
-

- 13 If $\{3, 6, 7, x\} = \{6, y, 3, 5\}$, what is the value of $y - x$?
-

- 14 Write the following algebraic expressions in their simplest forms:

a $7m - 2n - 7m + 1$

.....

b $-2n + 3(n - 1)$

.....

- 15 Find all proper subsets of $\{2, 3, 5\}$
-

- 16 Find the value of each of the following expressions, given that $a = 8$, $b = 3$, and $f = -1$:

a

$$\frac{-a}{4}$$

.....

b

$$b^2 - 2f$$

.....

- 17 Use the addition properties to find result:

$$-6 + (-13) + 6 = \text{.....} \quad (\text{..... Pro})$$

$$= \text{.....} \quad (\text{..... Pro})$$

$$= \text{.....} \quad (\text{..... Pro})$$

- 18 The number of girls in a school is $(8x + 15)$, and the number of boys is $(7x - 10)$. Write the mathematical expression that expresses the increase in the number of girls compared to the number of boys in the school.

.....

- 19 Find the value of x in each of the following:

a $\frac{-5}{12} - (-\frac{7}{6}) = \frac{1}{6} + x$

b $\frac{2}{7} - (-\frac{11}{21}) = \frac{11}{21} - x$

.....

- 20 Write the expression: $2(n - 3m) - 3(2n - 1)$ in the simplest form, and then find its value if $m = -2$ and $n = 2$.

.....



Guide Answers



First

- | | | |
|-----------------------|----------------|------------------|
| 1 6 | 2 0.9 cm | 5 $x + 2$ |
| 3 $\{2, 6, 7, 8, 9\}$ | 4 $40 + (-18)$ | 8 $\{6\}$ |
| 6 2.5 | 7 90 km | 11 10 |
| 9 $(-2) \times 5$ | 10 $7x, x$ | 16 6 |
| 12 $1 : 60,000$ | 13 4 | 19 $3x$ |
| 14 $-5 + 8$ | 15 $2a + 3a$ | 22 3 |
| 17 $\frac{1}{50,000}$ | 18 5 | 25 6 |
| 20 90 | 21 $150 : 1$ | 28 65 |
| 23 0 | 24 $2a$ | 31 5 |
| 26 2 | 27 4 | 34 $\frac{7}{5}$ |
| 29 1 | 30 3 | 37 -15 |
| 32 -5 | 33 $-6c$ | 42 Zero |
| 35 2 | 36 3 | 47 0 |
| 38 $-6x$ | 39 $1 : 300$ | |
| 40 $\{5\} \subset A$ | 41 6 | |
| 43 $-4x + 3y - 2$ | 44 25 meters | |
| 45 $\{7, 2\}$ | 46 $\subset$ | |
| 48 $4 - a$ | | |

Second

- | | | |
|---------------------------------|---------------------|-------------------|
| 1 $A \times B$ | 2 (-7) | 5 36% |
| 3 $X \cup Y$ | 4 -6 | 10 -8 |
| 6 0 | 7 $X \cap Y$ | 13 $\frac{3}{10}$ |
| 8 $-2a + 3b$ | 9 7.3% | 16 1 |
| 11 disjoint | 12 -2 | 19 X, Y |
| 14 1 | 15 empty sets | 22 0 |
| 17 0.75 | 18 negative | 25 0 |
| 20 $y^2 x$ | 21 $0.\overline{6}$ | 28 $15x$ |
| 23 $\emptyset, \emptyset$ | 24 b | 31 X |
| 26 6 | 27 $\emptyset$ | 34 -8 |
| 29 3.5 | 30 72 | |
| 32 $7a$ | 33 1 | |
| 35 X | 36 $9x$ | |
| 37 $\frac{10}{8} = \frac{5}{4}$ | 38 -18 | |
| 40 $-4y$ | | |

Third

- 1 $\frac{5}{x} = \frac{40}{128}$
The distance = $\frac{3 \times 128}{40} = 16$ litres

- 2 $x - 2y + 5$
- 3 The deduction = $1,500 - 1,200 = 300$ LE
The deduction rate = $\frac{300}{1,500} \times 100\% = 20\%$
- 4 $3x - 6y + 8$
- 5 The value of each part = $48 \div 2 = 24$
The larger number = $5 \times 24 = 120$
- 6 $x - 5$
- 7 $200 \text{ Km} = 200 \times 100,000 = 20,000,000 \text{ Cm}$
Scale drawing = $5 \div 20,000,000 = 1 : 4,000,000$
- 8 $\frac{x+y}{2} \geq 18$
- 9 18% of the cost (profit) = $\frac{150 \times 18}{100} = 27$ LE
The meal's sale price = $150 + 27 = 177$ LE
- 10 $P = a + b + c$
- 11 The percentage of price after deduction
= $100\% - 16\% = 84\%$
The price before deduction
= $12,600 \times \frac{100}{84} = 15,000$ LE
- 12 $2x + 2y = 36$
- 13 $x = 5, y = 7, y - x = 7 - 5 = 2$
- 14 a $-2n + 1$
b $-2n + 3n - 3 = n - 3$
- 15 $\{2\}, \{3\}, \{5\}, \{2, 3\}, \{3, 5\}$
 $\{2, 5\}, \{2, 3, 5\}, \emptyset$
- 16 a $\frac{-a}{4} = \frac{-8}{4} = -2$
b $b^2 - 2f = 3^2 - 2 \times (-1) = 9 - (-2)$
= $9 + 2 = 11$
- 17 $-6 + 6 + (-13)$ (Commutative Pro.)
= $[-6 + 6] + (-13)$ (Associative Pro.)
= $0 + (-13)$ (Additive Identity Pro.)
= -13
- 18 The increase = $(8x + 15) - (7x - 10)$
= $8x + 15 - 7x + 10$
= $x + 25$
- 19 a $\frac{-5}{12} + \frac{14}{12} = \frac{2}{12} + x$
 $\frac{9}{12} = \frac{2}{12} + x \rightarrow x = \frac{7}{12}$
b $\frac{6}{21} + \frac{11}{21} = \frac{11}{21} - x$
 $x = \frac{-6}{21} = \frac{-2}{7}$
- 20 $2n - 6m - 6n + 3 = -6m - 4n + 3$
= $(-6) \times (-2) - 4 \times (2) + 3 = 12 - 8 + 3 = 7$

حمل الآن

مجاناً وحصرياً

المراجعة رقم (6)

اختبار شهر اكتوبر



First: Choose the correct answer:

1 Ibrahim can run a distance of 60 meters in 20 seconds. If he continues at the same speed , which proportion can you use to find the time (x) in seconds he needs to cover a distance of 360 meters ?

(a) $\frac{x}{360} = \frac{60}{20}$

(b) $\frac{360}{x} = \frac{60}{20}$

(c) $\frac{360}{60} = \frac{20}{x}$

(d) $\frac{360}{20} = \frac{60}{x}$

2 Which of the following pairs of ratios are not proportional ?

(a) $\frac{2}{5}$, $\frac{12}{30}$

(b) $\frac{8}{10}$, $\frac{12}{15}$

(c) $\frac{7}{8}$, $\frac{35}{40}$

(d) $\frac{3}{4}$, $\frac{12}{18}$

3 If $\frac{8}{x} = 0.5$ what is the value of x ?

(a) 4

(b) 8

(c) 16

(d) 40

4 If $\frac{18}{24} = \frac{3}{a-1}$ what is the value of a ?

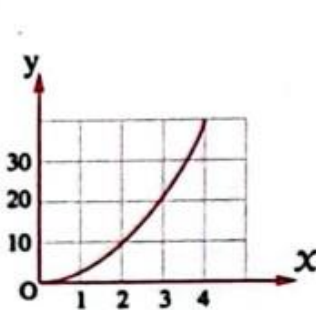
(a) 6

(b) 4

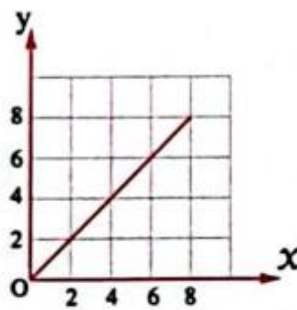
(c) 5

(d) 3

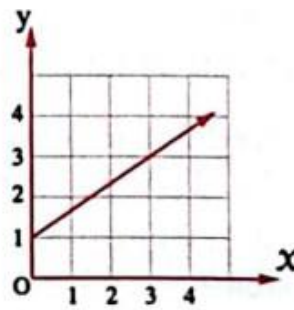
5 Which of the relationships shown below represents a proportion ?



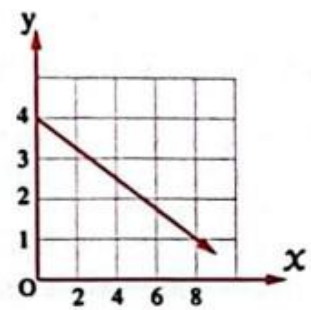
(a)



(b)



(c)



(d)

6 If the scale drawing is 1 : 1,000 and the real length is 25 meters , what is the length in the drawing in centimeters ?

(a) 0.025

(b) 0.25

(c) 2.5

(d) 25

7 If the length in the drawing is 14 mm and the real length is 700 meters , what is the scale drawing ?

- (a) 1 : 50,000 (b) 1 : 5,000 (c) 1 : 500 (d) 1 : 50

8 Which of the following scale drawings represents a minimization ?

- (a) 200,000 : 1 (b) 1 : 700 (c) 50 : 1 (d) 700 : 1

9 If the scale drawing of a map is
and the distance between two



cities on the map is 4 cm , what is the real distance between them ?

- (a) 8 km (b) 80 km (c) 800 km (d) 20 km

10 An amount of 300 LE is divided between two persons in the ratio 1 : 3
What is the share of the smaller person ?

- (a) 75 (b) 100 (c) 150 (d) 200

11 Shaimaa and Fatima invested in a project. Shaimaa paid 25,000 LE and Fatima paid 35,000 LE If the total profit is 48,000 LE , what is Fatima's share of the profit ?

- (a) 800 (b) 20,000 (c) 28,000 (d) 8,000

12 The ratio among the length of the sides of a triangle is 2 : 4 : 5 , if the length of the smallest side is 20 cm what is the length of the largest side ?

- (a) 10 cm (b) 20 cm (c) 30 m (d) 50 m

13 If the price of a chair is 2,500 LE and there is a 15% discount rate , what is the price of the chair after the discount ?

- (a) 2,875 LE (b) 375 LE
(c) 2,485 LE (d) 2,125 LE

14 If $\frac{x+5}{12} = \frac{5}{4}$, what is the value of $x - 2$?

- (a) 8 (b) 9 (c) 10 (d) 12

15 The ratio between two numbers is 5 : 3 , if the difference between them is 16 , what is the larger number ?

- (a) 10 (b) 40 (c) 24 (d) 6

16 If $\{8, 2x\} = \{6, 8\}$, what is the value of x ?

- (a) 6 (b) 3 (c) 8 (d) 4

17 $9 \dots\dots\dots \{2, 8, 7\}$

- (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$

18 If $B \subset A$, then $A \cap B = \dots\dots\dots$

- (a) A (b) B (c) $A \cup B$ (d) $\emptyset$

19 If $X = \{6, 8\}$, what is the number of subsets of set X ?

- (a) 2 (b) 4 (c) 6 (d) 8

20 A triangle has sides in the ratio 6 : 5 : 4. If its perimeter is 30 cm , what is the length of the shortest side ?

- (a) 4 cm (b) 8 cm (c) 12 cm (d) 10 cm

21 If $x \notin \{2, 5, 7\}$, which of the following can be a value of x ?

- (a) 1 (b) 2 (c) 5 (d) 7

22 A piece of land with an area of 63 feddans was divided between two persons in the ratio of 4 : 5. Which of the following could represent the share of either person?

- (a) 9 (b) 45 (c) 28 (d) 30

23 $\{5, 0\} \dots\dots\dots \{7, 0, 5\}$

- (a) $\in$ (b) $\notin$ (c) $\subset$ (d) $\not\subset$

24 What is the multiplicative inverse of $2\frac{1}{4}$?

- (a) $\frac{9}{4}$ (b) $\frac{3}{2}$ (c) $\frac{4}{9}$ (d) $\frac{2}{3}$

25 $24 \frac{1}{3} \% + \dots = 0.\overline{3}$

(a) 8 %

(b) 9 %

(c) 10 %

(d) 11 %

26 What is the result of subtracting $\frac{1}{8}$ from $\frac{9}{8}$?

(a) - 1

(b) 1

(c) $\frac{5}{4}$

(d) $-\frac{5}{4}$

Second: Answer the following questions:

1 If the scale of the map is 1: 4000000 and the actual distance between Two cities was 350 km. Find the distance between the two cities.

2 Iman reads 10 pages in 40 minutes. How much time in hours would it take her to read a 120- page book if she read at the same rate?

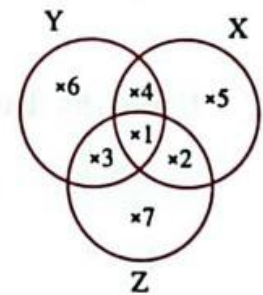
3 If the magnification ratio of an insect's image is 30 : 1 , and the insect's real length is $2 \frac{1}{2}$ mm, Find the length of the insect in the image in centimeters.

4 From the opposite Venn diagram , find :

1 Z , Y and X

2 $X \cap Y \cap Z$

3 $X \cap (Y \cup Z)$



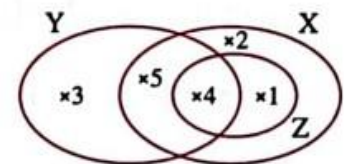
5 From the given shape , determine :

1 X , Y , Z

2 $X \cap Y$

3 $X \cap Y \cap Z$

4 $Y \cup Z$



6 If $A = \{1, 5, 3, 7\}$, and $B = \{1, 2, 5, 9\}$. Find each of : $A \cup B$ and $A \cap B$

7 Alaa purchased a mobile phone for 6,750 LE and sold it for 7,776 LE.
Calculate the percentage of Alaa's profit.

8 Using the distributive property, find the value of :

1) $\frac{6}{37} \times 7 + \frac{6}{37} \times 5 + \frac{6}{37} \times (-11)$ 2) -9×102

9 Use the distributive property to find the result of the following :

$$-\frac{4}{9} \times 8 + 9 \times \left(-\frac{4}{9}\right) + \frac{-4}{9}$$

10 If $a = 1\frac{1}{2}$, $b = \frac{3}{4}$, $c = -\frac{2}{3}$

, find the numerical value of the expression : $a c + b$

11 If $x = -\frac{1}{3}$, $y = \frac{3}{4}$ and $z = -3$, find the numerical value of each of the following :

1) $x y z$

2) $x y + y z$

12 Use the properties of addition in $\mathbb{Q}$ to find the result of : $\frac{4}{5} + \left(-\frac{3}{7}\right) + \frac{1}{5} + \frac{3}{7}$

13 Use the properties of addition in $\mathbb{Z}$ to find the result of each of the following :

1) $8 + 10 + (-8)$

2) $24 + (-19) + (-24) + 9$

14 Use the properties of multiplication in $\mathbb{Z}$ to find the result of each of the following :

1) $(-4) \times 57 \times (-25)$

2) $8 \times 2 \times 125 \times (-50)$

حمل الآن

مجاناً وحصرياً

المراجعة رقم (7)

اختبار شهر اكتوبر



Unit 1

Q1 Choose the correct answer :-

1) Which of the following ratios is proportional to the given ratio $\frac{10}{12}$?

a) $\frac{12}{10}$

b) $\frac{2}{6}$

c) $\frac{5}{4}$

d) $\frac{15}{18}$

2) Which of the following ratios is proportional to the given ratio $\frac{24}{36}$?

a) $\frac{8}{18}$

b) $\frac{10}{12}$

c) $\frac{10}{15}$

d) $\frac{16}{28}$

3) Which of the following pairs of ratios are NOT proportional ?

a) $\frac{2}{5} = \frac{12}{30}$

b) $\frac{8}{10} = \frac{12}{15}$

c) $\frac{7}{8} = \frac{35}{40}$

d) $\frac{3}{4} = \frac{12}{18}$

4) If $\frac{8}{x} = 0.5$, then X =

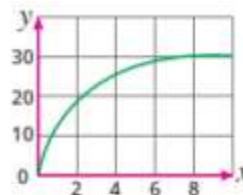
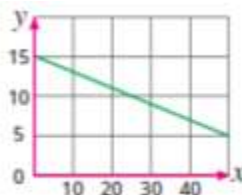
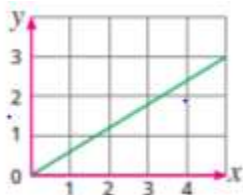
a) 8

b) 4

c) 16

d) 40

5) Which of the following figure represent proportion



6) If $\frac{18}{24} = \frac{3}{a-1}$ what is the value of a ?

a) 6

b) 4

c) 5

d) 3

7) If $\frac{X}{Y} = \frac{3}{4}$, then $\frac{4X}{Y} = \dots\dots\dots$

a) $\frac{3}{4}$

b) 1

c) 3

d) $\frac{1}{3}$

8) If the length on drawing is 8 cm and the real length is 320 km , what is the scale drawing ?

a) 4,000,000 : 1

b) 1 : 400,00

c) 1 : 4,000,000

d) 1 : 40



9) Which of the following scale drawings is equivalent to " every 1 cm in the drawing represents 6.5 km in reality " ?

- a) 1 : 6,000,000 b) 1 : 6,500 c) 1 : 650,000 d) 1 : 6.5

10) If the length of an insect 0.3 mm and its length after magnification is 4.5 cm , what is the magnification ratio ?

- a) 1 : 15 b) 15 : 1 c) 1 : 150 d) 150 : 1

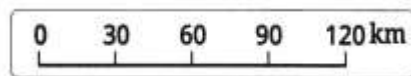
11) Which of the following scale drawings represents a minimization ?

- a) 1 : 7000 b) 70 : 1 c) 7000: 1 d) 500 : 1

12) If the scale drawing is 1 : 1000 the length in the drawing is 2.5 cm , then what is the real length in meters ?

- a) 250 meters b) 25 meters c) 2.5 meters d) 0.25 meter

13) If the scale of a map is as shown in the opposite figure and the distance between two cities on this map is 3cm , what is the actual distance between them ?



- a) 30 km b) 1,200,000 cm c) 90 km d) 90,000 cm

14) If $a : b = 3 : 7$, and $a + b = 40$ then the value of $b - a$ is

- a) 16 b) 12 c) 14 d) 28

15) If $a : b = 2 : 5$, and $a = 14$ then the value of b is

- a) 7 b) 2 c) 10 d) 35

16) If $a : b : c = 3 : 2 : 4$, and $c - b = 20$ then the value of a is

- a) 10 b) 20 c) 30 d) 40

17) Yara has a meal in a restaurant , the price of the meal is 60 LE with an additional 14% task rate , what is the amount Yara paid ?

- a) 8.4 LE b) 51.6 LE c) 68.4 LE d) 16.8 LE



- 18)** Mohamed deposited 50,000 LE in a bank with an annual interest 18%
what is the total amount Mohamed will receive after one year of deposit ?
a) 9,000 LE b) 41,000 LE c) 59,000 LE d) 68,000 LE
- 19)** If an item price was reduced from 1,500 LE to 1,200 LE , what is the deduction rate ?
a) 3% b) 30% c) 15 % d) 20%
- 20)** If the price of a car increases from 240,000 LE to 300,000 LE , what is the rate of increase ?
a) 25% b) 60% c) 5 % d) 30%
- 21)** A box contains 240 colored balls , 35% of which are yellow , how many yellow balls are there ?
a) 4 balls b) 120 balls c) 71 balls d) 84 balls
- 22)** If the price of an item is reduced from 2,700 LE to 2,484 LE , what is the discount rate ?
a) 8% b) 10% c) 6 % d) 18%
- 23)** If 15% of X equals 20% of Y , what is the ratio of X : Y ?
a) 5 : 4 b) 3 : 2 c) 4 : 3 d) 3 : 4
- 24)** If $A = \{ 2, 5, 8 \}$, then which of the following is correct ?
a) $\{2\} \in A$ b) $\{3\} \notin A$ c) $\{5\} \subset A$ d) $\{5, 8\} \not\subset A$
- 25)** If $A = \{ 2, 4, 7 \}$, and $B \subset A$, then which of the following can be the set B ?
a) $\{ 4, 6 \}$ b) $\{ 3, 4, 7 \}$ c) $\{ 1, 3, 5 \}$ d) $\{ 2, 7 \}$
- 26)** If $A = \{ 8, 9, 6 \}$, $B = \{ 2, 6, 7 \}$ then which express $A \cup B$?
a) $\{ 6 \}$ b) $\{ 8, 9 \}$ c) $\{ 2, 6, 7, 8, 9 \}$ d) $\{ 2, 7 \}$

- 27) If $A = \{8, 9, 6\}$, $B = \{2, 6, 7\}$ then which express $A \cap B$?
 a) $\{6\}$ b) $\{8, 9\}$ c) $\{2, 6, 7, 8, 9\}$ d) $\{2, 7\}$
- 28) If $A = \{5, 7\}$, then what is the number of all subsets of set A?
 a) 5 b) 4 c) 2 d) 8
- 29) If $\{3, 7, X, 6\} = \{3, 6, Y, 5\}$ then what is the value of $Y - X$?
 a) -12 b) -2 c) 2 d) 12
- 30) If $\{8, 2X\} = \{6, 8\}$, then what is the value of X ?
 a) 6 b) 4 c) 3 d) 8
- 31) $Z \cup N =$
 a) N b) Z c) Q d) $\emptyset$
- 32) $Z \cup Q =$
 a) N b) Z c) Q d) $\emptyset$
- 33) $\{1, 2\}$ $\{2, 1\}$
 a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$
- 34) $\emptyset$ $\{1, 2\}$
 a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$
- 35) 0 $\emptyset$
 a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$
- 36) Q Z
 a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$
- 37) N Q
 a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$

38) $\left\{\frac{1}{2}, 1, 2\right\}$ Q

- a) $\in$ b) $\subset$ c) $\nsubseteq$ d) $\notin$

39) Which of the following sums has a positive sign ?

- a) $19+(-26)$ b) $-25+(-12)$ c) $-35+17$ d) $40+(-18)$

40) $|-5| + \dots = 0$

- a) -5 b) 5 c) 1 d) 0

41) $3 - |-3| = \dots$

- a) 3 b) 6 c) 1 d) 0

42) If n is a negative integer which of the following is the greatest ?

- a) $3n$ b) $-3n$ c) $\frac{n}{3}$ d) $\frac{3}{n}$

43) If $a + b = 0$ then $a \times b$ 0

- a) $<$ b) $>$ c) $=$

44) $\frac{3}{4} + 50\% = \dots$

- a) 75% b) 150% c) $\frac{3}{2}$ d) $\frac{5}{4}$

45) If $\frac{2}{3} \times X = \frac{5}{7} \times \frac{2}{3}$, then X =

- a) $\frac{3}{2}$ b) $\frac{2}{3}$ c) $\frac{5}{7}$ d) $\frac{7}{5}$

46) $0.\overline{7} \div \frac{1}{3} = \dots$

- a) $\frac{3}{7}$ b) $\frac{7}{21}$ c) $\frac{7}{3}$ d) $\frac{21}{10}$

47) If $(X - 1)$ is the multiplicative inverse of $\frac{1}{5}$, then X =

- a) 4 b) 5 c) 6 d) $1\frac{1}{5}$

48) $\frac{3}{4}$ exceeds $\frac{3}{8}$ by the amount of =

- a) $\frac{3}{8}$ b) $-\frac{3}{8}$ c) $\frac{9}{8}$ d) $-\frac{9}{8}$



49) If 3 times a number is 27 the $\frac{1}{3}$ of this number =

- a) 3 b) $\frac{3}{2}$ c) $\frac{9}{4}$ d) 1

50) If $\frac{X}{Y} = \frac{2}{3}$, then $\frac{3X}{2Y} = \dots\dots\dots$

- a) $\frac{3}{2}$ b) $\frac{1}{3}$ c) $\frac{9}{4}$ d) 1

51) If $\frac{|X|}{5} = 3$, then X =

- a) 15 b) 5 c) 10 d) ± 15

Q2 Complete the following :-

1) $\frac{3}{5} = \frac{\dots\dots}{15}$

2) $\frac{18}{12} = \frac{12}{\dots\dots}$

3) $\frac{15}{X} = \frac{30}{12}$

4) $7 : 8 = 21 : m$

5) $\frac{m-3}{12} = \frac{5}{4}$

6) $\frac{16}{3X} = \frac{8}{12}$



7) $\frac{1}{3} = \frac{2}{b+1}$

8) $\frac{8}{y} = \frac{y}{2}$

9) $\frac{14}{X} = \frac{y}{7}$, then $xy = \dots\dots\dots$

10) If 2 , 7 , X , 21 are proportion then X =

11) The forth proportional to the numbers 7 , 21 , 9 is

12) If $\frac{K}{4} = 9$, then , the value of $\frac{1}{2} K - 7 = \dots\dots\dots$

13) Seif packed 100 cardboard boxes in 2.5 hours , it would take seif
..... hours to pack 160 boxes , working at the same rate.

14) If the scale drawing is > 1 , it represents , but if the scale
drawing is < 1 , it represents

15) If the scale drawing is 1 : 200 it represents

16) If the length the drawing is 5 cm , and the real length is 15 meters ,
then the scale drawing =

- 17) If the length of an insect in the picture is 4 cm , and its real length is 2 mm , then the scale drawing =
- 18) If the magnification ratio of an insect's image 30 : 1 and the insect's real length is $2\frac{1}{2}$ mm , then the length of the insect in the image in centimeters is
- 19) If the scale on the map is 1 : 600,000 and the distance between two points on the map is 4.5 cm , then the real distance between the two points =
- 20) Malak drew a picture to her sister Farida , if the scale drawing is 1 : 4 and Farida's height is 160 cm , then Farida's height in the picture =
- 21) If the actual length is 90 meters , and the scale is 1 : 10,000 then the length in the drawing in centimeters =
- 22) The ratio between two numbers 2 : 5 , if the smaller number is 48 , then the larger number is
- 23) 120 LE. were divided between two persons in the ratio of 2 : 3 , then the share of the smaller one is
- 24) If the number of students in a school is 576 , and the ratio of girls to boys is 5 : 3 , then the increase of the number of girls than boys is

- 25) 360 LE. were distributed between Yara and Maria in the ratio of 7 : 5 , then the ratio of each one is and
- 26) The ratio between the length of the sides in a triangle 3:4:5 , if its perimeter is 36 cm , then the length of the longest side is
- 27) $-2 + (\dots + 5) = -2$
- 28) $0 + \dots = | -7 |$
- 29) $-4 + \dots = -4$
- 30) $-7 - (-8) = \dots$
- 31) The additive identity in $\mathbb{Z}$ is
- 32) The additive inverse of -7 is
- 33) The additive inverse of 0 is
- 34) The result of subtracting -5 from 3 is
- 35) $-5 + 3 = 3 + (-5)$ (..... property)
- 36) $0 + (-7) = -7$ (..... property)
- 37) $6 + (-6) = 0$ (..... property)
- 38) $-a + a = 0$ (..... property)
- 39) $1 \times -12 = -12$ (..... property)
- 40) $(-5) \times 2 = 2 \times (-5)$ (..... property)
- 41) $(-2 + 5) + 3 = -2 + (5 + 3)$ (..... property)
- 42) The multiplicative identity in $\mathbb{Z}$ is
- 43) The product of two integers with different signs is a integer
- 44) $-7 \times \dots = -56$
- 45) If $a = 3$ and $b = -2$, then the value of $3ab = \dots$
- 46) $A \times (B+C) = \dots + A \times C$
- 47) If $a \times b = a$, then $b = \dots$

- 48) If $a \div b = a$, then $b =$
- 49) If $X = |-4|$ and $Y = -1$, then $XY =$
- 50) $\frac{7}{20} =$ %
- 51) $\frac{21}{1000} =$ %
- 52) $|-0.4| =$ %
- 53) $0.\overline{2} =$ (in the form $\frac{a}{b}$)
- 54) $\frac{5}{8} =$ (in decimal form)
- 55) The additive inverse of $\frac{-6}{-11}$ is
- 56) The additive inverse of $|- \frac{3}{5}|$ is
- 57) The additive inverse of -2.3 is
- 58) The additive inverse of $(-2)^3$ is
- 59) The additive identity in $\mathbb{Q}$ is
- 60) $60\% + \frac{3}{10} - 0.14 =$
- 61) If $\frac{a}{b}$ is a rational number , then $b \neq$
- 62) The multiplicative identity in $\mathbb{Q}$ is
- 63) The multiplicative inverse of $\frac{3}{7}$ is
- 64) The multiplicative inverse of $-\frac{4}{9}$ is
- 65) The multiplicative inverse of $-3\frac{1}{2}$ is
- 66) The multiplicative inverse of -3 is
- 67) The multiplicative inverse of 0.5 is
- 68) The multiplicative inverse of 1 is
- 69) The multiplicative inverse of -1 is
- 70) The multiplicative inverse of $|- \frac{3}{5}|$ is
- 71) The multiplicative inverse of 60% is
- 72) The rational number $\frac{a-1}{5}$ has a multiplicative inverse if $a \neq$
- 73) The rational number that does not have a multiplicative inverse is
- 74) The result of subtracting $\frac{1}{7}$ from $\frac{8}{7} =$

- 75) $1 \div \frac{4}{9} = \dots\dots\dots$
- 76) $-\frac{4}{7} \times \dots\dots\dots = -\frac{4}{7}$
- 77) $2\frac{3}{5} \times \dots\dots\dots = 1$
- 78) $4 \times \dots\dots\dots = -5$
- 79) $\frac{1}{4} \times 25\% = \dots\dots\dots$
- 80) $-\frac{4}{9} \times \dots\dots\dots = 1$
- 81) $\dots\dots\dots \times 0.8 = 1$
- 82) If $\{5, Y\} = \{7, X\}$, then $X = \dots\dots\dots$ and $Y = \dots\dots\dots$
- 83) If $X \in \{5, 3, 10\}$, X is a prime factor of 6 then $X = \dots\dots\dots$
- 84) If $\{6, Y + 2\} = \{3, X - 2\}$, then $X = \dots\dots\dots$ and $Y = \dots\dots\dots$
- 85) If $A \subset B$, then $A \cap B = \dots\dots\dots$, $A \cup B = \dots\dots\dots$
- 86) If $A = B$, then $A \cap B = \dots\dots\dots$, $A \cup B = \dots\dots\dots$
- 87) $A \cap \emptyset = \dots\dots\dots$
- 88) $\emptyset \cup X = \dots\dots\dots$
- 89) $A \cap A = \dots\dots\dots$
- 90) If $X \cap Y = Y$, then $\dots\dots\dots \subset \dots\dots\dots$

Q3 Answer the following :-

- 1) Seif bought 8 apples for 60 L.E. , how many apples of the same type can he buy for 105 L.E. ?
- 2) $\frac{3}{4}$ liter of milk costs 24 pounds , how much would $1\frac{3}{4}$ liters cost ?
- 3) Yara reads 15 pages in 50 minutes , what is the time in hours that she will take to read a book of 180 pages if she reads at the same rate ?
- 4) A car uses 5 liters of petrol to cover a distance of 40 km , how much petrol would the car to cover the distance 128 km if it travel at the same rate ?
- 5) A man wants to divide 8,000 LE. among his three sons in the ratio of 1 : 2 : 5 , find the ratio of each one .
- 6) A sum of money was divided among three persons in the ratio of 4 : 2 : 1 , if the share of the first person exceeds the share of the third person by 900 LE , find the share of each one.
- 7) Seif earns twice as much as Marwan , if the sum of their wages is 36,000 LE. , what is the wage for each of them ?

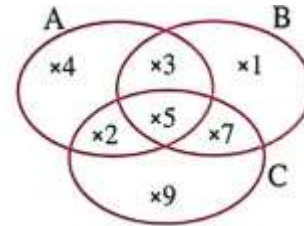
8) A watch was offered with a discount rate is 25% off during a sale , if the price of the watch was 720 LE , what is the price of the watch after the discount ?

9) From the opposite venn diagram , find

$$A \cap B = \dots\dots\dots$$

$$A \cap B \cap C = \dots\dots\dots$$

$$C \cup B = \dots\dots\dots$$



10) Use the properties of addition & multiplication to find :-

a) $-5 + (-13) + 5$

b) $25 + (-8) + (-25) + 7$

c) $(-2) \times (-25) \times (-50) \times 4$

d) $50 \times (-45) \times 2$

e) $3 \times (-2) + 3 \times 5$

f) 15×99

g) $32 \times 18 - 32 \times 34 + 32 \times 17$

h) -7×102

i) $\frac{3}{4} + \frac{1}{2} + \frac{1}{4}$

j) $\frac{2}{7} + \frac{3}{4} + \frac{5}{7} + \frac{1}{4}$

k) $\frac{5}{12} \times 3 + \frac{5}{12} \times 9$

l) $-\frac{4}{9} \times 8 + 9 \times \left(\frac{-4}{9}\right) + \frac{-4}{9}$

11) If $a = 15$ and $b = -5$, find the result of the following :-

a) $|9 - a|$

b) $a - b$

c) $|3 - b|$

d) $b - (-a)$

12) If $a = 1\frac{3}{4}$ and $b = \frac{12}{7}$ $c = \frac{2}{3}$, find the numerical value of the following :-

a) $abc + 3$

b) $ab - c$

- 13)** A rectangle has an area of $50\frac{3}{4} \text{ cm}^2$ and a length of $9\frac{2}{3} \text{ cm}$, calculate the width .
- 14)** Find the area of a triangle with a base length $\frac{1}{4}m$ and the corresponding height of $1\frac{1}{2}m$.

Unit 2

Q1 Choose the correct answer :-

- 1) The constant term in the algebraic expression $2xy+3y-5$ is
 a) 5 b) $3y$ c) -5 d) $2xy$
- 2) The number of algebraic terms in $45 a b c$ is
 a) 1 b) 2 c) 3 d) 4
- 3) The like term to the term $a^2 b$ in the algebraic expression $b^2a-3ab+7ba^2$ is
 a) b^2a b) $-3ab$ c) $7ba^2$ d) None
- 4) $X + 5 > 6$ is
 a) algebraic expression b) equation c) inequality d) formula
- 5) The area of square = side $\times$ side is
 a) algebraic expression b) equation c) inequality d) formula
- 6) $a + a + a =$
 a) $3a$ b) $3 + a$ c) $3a^3$ d) a^3
- 7) $5x + (-3x) =$
 a) $8x$ b) $2x$ c) $-2x$ d) $-8x$
- 8) Which of the following pairs of terms are like terms ?
 a) $7x$, 7 b) x^2 , y^2 c) $3a$, $8a$ d) $2x$, $-2x^2$
- 9) If $a = 2b$, $b = 15$ then the numerical value of expression $a + 2b + 5 =$
 a) 40 b) 65 c) 35 d) 20
- 10) What is the algebraic expression equivalent to $2y + 5 - 4y - 6$?
 a) $2y + 1$ b) $-2y - 1$ c) $2y - 1$ d) $-2y + 1$

11) What is the simplest form of $7b + 4a - 2 - 2b + 3a + 2$?

- a) $5b + a + 2$ b) $5b + 7a$ c) $5b + a$ d) $9b + 7a + 4$

12) Which of the following doesn't equal $4a$?

- a) $4 + a$ b) $2a + 2a$ c) $a + a + a + a$ d) $a + 3a$

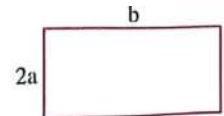
13) What is the mathematical formula of the area (A) of a parallelogram with base length (L) and corresponding height (h) ?

- a) $A = \frac{1}{2} L h$ b) $A = \frac{L}{h}$ c) Lh d) $L + h$

14) What is the suitable equation to find the side length of an equilateral triangle whose perimeter 12 cm ?

- a) $x + 3 = 12$ b) $3x = 12$ c) $x = 12$ d) $2x = 12$

15) What is the algebraic expression representing the perimeter of the following rectangle ?



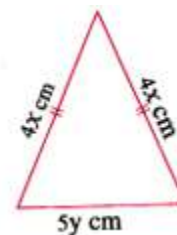
- a) $b + 2a$ b) $a + 2b$ c) $4a + 2b$ d) $2ab$

Q2 Complete the following :-

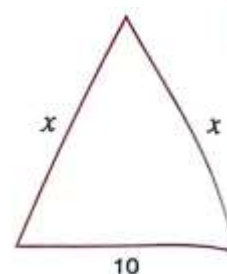
- 1) $-3y+5y-6$ in the simplest form is
- 2) The result of subtracting $2b$ from $5b$ is
- 3) The algebraic term that if added to $-7m$, the result will be $-9m$ is
- 4) The algebraic term that if subtracted from $8x$, the result will be $-4x$ is
- 5) The algebraic term $-3y$ exceeds the algebraic term $2y$ by
- 6) The algebraic term $8k$ is less than the algebraic term $-3k$ by
- 7) $-15x + 12x =$
- 8) $-x + 2y - 8y + 5x + 7 =$

Q3 Answer the following :-

- 1) From the opposite figure :-
 - a. Mathematical expression that represents the perimeter is
 - b. simplest form
 - c. numerical value of the perimeter at $y=2$ $x=3$ is



- 2) The perimeter of the opposite triangle is 34 cm , then what is the value of x .



Q1 Choose the correct answer :-1) Which of the following ratios is proportional to the given ratio $\frac{10}{12}$?

a) $\frac{12}{10}$

b) $\frac{2}{6}$

c) $\frac{5}{4}$

d) $\frac{15}{18}$

2) Which of the following ratios is proportional to the given ratio $\frac{24}{36}$?

a) $\frac{8}{18}$

b) $\frac{10}{12}$

c) $\frac{10}{15}$

d) $\frac{16}{28}$

3) Which of the following pairs of ratios are NOT proportional ?

a) $\frac{2}{5} = \frac{12}{30}$

b) $\frac{8}{10} = \frac{12}{15}$

c) $\frac{7}{8} = \frac{35}{40}$

d) $\frac{3}{4} = \frac{12}{18}$

4) If $\frac{8}{x} = 0.5$, then X =

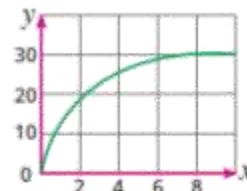
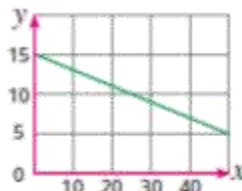
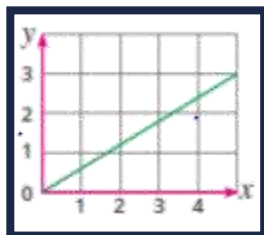
a) 8

b) 4

c) 16

d) 40

5) Which of the following figure represent proportion

6) If $\frac{18}{24} = \frac{3}{a-1}$ what is the value of a ?

a) 6

b) 4

c) 5

d) 3

7) If $\frac{X}{Y} = \frac{3}{4}$, then $\frac{4X}{Y} = \dots\dots\dots$

a) $\frac{3}{4}$

b) 1

c) 3

d) $\frac{1}{3}$

8) If the length on drawing is 8 cm and the real length is 320 km , what is the scale drawing ?

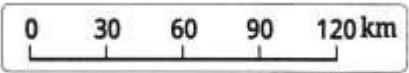
a) 4,000,000 : 1

b) 1 : 400,00

c) 1 : 4,000,000

d) 1 : 40



- 9) Which of the following scale drawings is equivalent to " every 1 cm in the drawing represents 6.5 km in reality " ?
a) 1 : 6,000,000 b) 1 : 6,500 c) 1 : 650,000 d) 1 : 6.5
- 10) If the length of an insect 0.3 mm and its length after magnification is 4.5 cm , what is the magnification ratio ?
a) 1 : 15 b) 15 : 1 c) 1 : 150 d) 150 : 1
- 11) Which of the following scale drawings represents a minimization ?
a) 1 : 7000 b) 70 : 1 c) 7000: 1 d) 500 : 1
- 12) If the scale drawing is 1 : 1000 the length in the drawing is 2.5 cm , then what is the real length in meters ?
a) 250 meters b) 25 meters c) 2.5 meters d) 0.25 meter
- 13) If the scale of a map is as shown in the opposite figure and the distance between two cities on this map is 3cm , what is the actual distance between them ?
a) 30 km b) 1,200,000 cm c) 90 km d) 90,000 cm
- 
- 14) If $a : b = 3 : 7$, and $a + b = 40$ then the value of $b - a$ is
a) 16 b) 12 c) 14 d) 28
- 15) If $a : b = 2 : 5$, and $a = 14$ then the value of b is
a) 7 b) 2 c) 10 d) 35
- 16) If $a : b : c = 3 : 2 : 4$, and $c - b = 20$ then the value of a is
a) 10 b) 20 c) 30 d) 40
- 17) Yara has a meal in a restaurant , the price of the meal is 60 LE with an additional 14% task rate , what is the amount Yara paid ?
a) 8.4 LE b) 51.6 LE c) 68.4 LE d) 16.8 LE

- 18) Mohamed deposited 50,000 LE in a bank with an annual interest 18% what is the total amount Mohamed will receive after one year of deposit ?
a) 9,000 LE b) 41,000 LE c) 59,000 LE d) 68,000 LE
- 19) If an item price was reduced from 1,500 LE to 1,200 LE , what is the deduction rate ?
a) 3% b) 30% c) 15 % d) 20%
- 20) If the price of a car increases from 240,000 LE to 300,000 LE , what is the rate of increase ?
a) 25% b) 60% c) 5 % d) 30%
- 21) A box contains 240 colored balls , 35% of which are yellow , how many yellow balls are there ?
a) 4 balls b) 120 balls c) 71 balls d) 84 balls
- 22) If the price of an item is reduced from 2,700 LE to 2,484 LE , what is the discount rate ?
a) 8% b) 10% c) 6 % d) 18%
- 23) If 15% of X equals 20% of Y , what is the ratio of X : Y ?
a) 5 : 4 b) 3 : 2 c) 4 : 3 d) 3 : 4
- 24) If $A = \{ 2, 5, 8 \}$, then which of the following is correct ?
a) $\{ 2 \} \in A$ b) $\{ 3 \} \notin A$ c) $\{ 5 \} \subset A$ d) $\{ 5, 8 \} \not\subset A$
- 25) If $A = \{ 2, 4, 7 \}$, and $B \subset A$, then which of the following can be the set B ?
a) $\{ 4, 6 \}$ b) $\{ 3, 4, 7 \}$ c) $\{ 1, 3, 5 \}$ d) $\{ 2, 7 \}$
- 26) If $A = \{ 8, 9, 6 \}$, $B = \{ 2, 6, 7 \}$ then which express $A \cup B$?
a) $\{ 6 \}$ b) $\{ 8, 9 \}$ c) $\{ 2, 6, 7, 8, 9 \}$ d) $\{ 2, 7 \}$

27) If $A = \{8, 9, 6\}$, $B = \{2, 6, 7\}$ then which express $A \cap B$?

a) $\{6\}$ b) $\{8, 9\}$ c) $\{2, 6, 7, 8, 9\}$ d) $\{2, 7\}$

28) If $A = \{5, 7\}$, then what is the number of all subsets of set A?

a) 5

b) 4

c) 2

d) 8

29) If $\{3, 7, X, 6\} = \{3, 6, Y, 5\}$ then what is the value of $Y - X$?

a) -12

b) -2

c) 2

d) 12

30) If $\{8, 2X\} = \{6, 8\}$, then what is the value of X ?

a) 6

b) 4

c) 3

d) 8

31) $Z \cup N =$

a) N

b) Z

c) Q

d) $\emptyset$

32) $Z \cup Q =$

a) N

b) Z

c) Q

d) $\emptyset$

33) $\{1, 2\}$ $\{2, 1\}$

a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$

34) $\emptyset$ $\{1, 2\}$

a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$

35) 0 $\emptyset$

a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$

36) Q Z

a) $\in$ b) $\subset$ c) $\subset$ d) $\notin$

37) N Q

a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$ 

38) $\left\{\frac{1}{2}, 1, 2\right\}$ Q

a) $\in$

b) $\subset$

c) $\nsubseteq$

d) $\notin$

39) Which of the following sums has a positive sign ?

a) $19+(-26)$

b) $-25+(-12)$

c) $-35+17$

d) $40+(-18)$

40) $|-5| + \dots = 0$

a) -5

b) 5

c) 1

d) 0

41) $3 - |-3| = \dots$

a) 3

b) 6

c) 1

d) 0

42) If n is a negative integer which of the following is the greatest ?

a) $3n$

b) $-3n$

c) $\frac{n}{3}$

d) $\frac{3}{n}$

43) If $a + b = 0$ then $a \times b$ 0

a) $<$

b) $>$

c) $=$

44) $\frac{3}{4} + 50\% = \dots$

a) 75%

b) 150%

c) $\frac{3}{2}$

d) $\frac{3}{4}$

45) If $\frac{2}{3} \times X = \frac{5}{7} \times \frac{2}{3}$, then $X = \dots$

a) $\frac{3}{2}$

b) $\frac{2}{3}$

c) $\frac{5}{7}$

d) $\frac{7}{5}$

46) $0.\overline{7} \div \frac{1}{3} = \dots$

a) $\frac{3}{7}$

b) $\frac{7}{21}$

c) $\frac{7}{3}$

d) $\frac{21}{10}$

47) If $(X - 1)$ is the multiplicative inverse of $\frac{1}{5}$, then $X = \dots$

a) 4

b) 5

c) 6

d) $1\frac{1}{5}$

48) $\frac{3}{4}$ exceeds $\frac{3}{8}$ by the amount of =

a) $\frac{3}{8}$

b) $-\frac{3}{8}$

c) $\frac{9}{8}$

d) $-\frac{9}{8}$



49) If 3 times a number is 27 the $\frac{1}{3}$ of this number =

a) 3

b) $\frac{3}{2}$

c) $\frac{9}{4}$

d) 1

50) If $\frac{X}{Y} = \frac{2}{3}$, then $\frac{3X}{2Y} = \dots\dots\dots$

a) $\frac{3}{2}$

b) $\frac{1}{3}$

c) $\frac{9}{4}$

d) 1

51) If $\frac{|X|}{5} = 3$, then X =

a) 15

b) 5

c) 10

d) ± 15

Q2 Complete the following :-

1) $\frac{3}{5} = \frac{9}{15}$

2) $\frac{18}{12} = \frac{12}{8}$

3) $\frac{15}{X} = \frac{30}{12}$ **x=6**

4) **7** : 8 = 21 : **24**

5) $\frac{m-3}{12} = \frac{5}{4}$ **m=18**

6) $\frac{16}{3X} = \frac{8}{12}$, **x = 8**

7) $\frac{1}{3} = \frac{2}{b+1}$, **$b = 5$**

8) $\frac{8}{y} = \frac{y}{2}$, **$y = 4$**

9) $\frac{14}{X} = \frac{y}{7}$, then $xy = 98$

10) If 2 , 7 , X , 21 are proportion then $X = 6$

11) The forth proportional to the numbers 7 , 21 , 9 is 27

12) If $\frac{K}{4} = 9$, then , the value of $\frac{1}{2} K - 7 = 11$

13) Seif packed 100 cardboard boxes in 2.5 hours , it would take seif 4 hours to pack 160 boxes , working at the same rate.

14) If the scale drawing is > 1 , it represents magnification , but if the scale drawing is < 1 , it represents minimization.

15) If the scale drawing is 1 : 200 it represents minimization.

16) If the length the drawing is 5 cm , and the real length is 15 meters , then the scale drawing = 1 : 300

17) If the length of an insect in the picture is 4 cm , and its real length is 2 mm , then the scale drawing = 20 : 1

- 18) If the magnification ratio of an insect's image 30 : 1 and the insect's real length is $2\frac{1}{2}$ mm , then the length of the insect in the image in centimeters is 7.5 cm
- 19) If the scale on the map is 1 : 600,000 and the distance between two points on the map is 4.5 cm , then the real distance between the two points = 27 km
- 20) Malak drew a picture to her sister Farida , if the scale drawing is 1 : 4 and Farida's height is 160 cm , then Farida's height in the picture = 40 cm
- 21) If the actual length is 90 meters , and the scale is 1 : 10,000 then the length in the drawing in centimeters = 0.9 cm
- 22) The ratio between two numbers 2 : 5 , if the smaller number is 48 , then the larger number is 120
- 23) 120 LE. were divided between two persons in the ratio of 2 : 3 , then the share of the smaller one is 48
- 24) If the number of students in a school is 576 , and the ratio of girls to boys is 5 : 3 , then the increase of the number of girls than boys is 144
- 25) 360 LE. were distributed between Yara and Maria in the ratio of 7 : 5 , then the ratio of each one is 210 and 150

- 26) The ratio between the length of the sides in a triangle 3:4:5 , if its perimeter is 36 cm , then the length of the longest side is 15 cm
- 27) $-2 + (-5 + 5) = -2$
- 28) $0 + 7 = |-7|$
- 29) $-4 + 0 = -4$
- 30) $-7 - (-8) = 1$
- 31) The additive identity in $\mathbb{Z}$ is 0
- 32) The additive inverse of -7 is 7
- 33) The additive inverse of 0 is 0
- 34) The result of subtracting -5 from 3 is 8
- 35) $-5 + 3 = 3 + (-5)$ (commutative property)
- 36) $0 + (-7) = -7$ (additive identity property)
- 37) $6 + (-6) = 0$ (additive inverse property)
- 38) $-a + a = 0$ (additive inverse property)
- 39) $1 \times -12 = -12$ (multiplicative identity property)
- 40) $(-5) \times 2 = 2 \times (-5)$ (commutative property)
- 41) $(-2 + 5) + 3 = -2 + (5 + 3)$ (Associative property)
- 42) The multiplicative identity in $\mathbb{Z}$ is 1
- 43) The product of two integers with different signs is a negative integer
- 44) $-7 \times 8 = -56$
- 45) If $a = 3$ and $b = -2$, then the value of $3ab = -18$
- 46) $A \times (B+C) = A \times C + A \times C$
- 47) If $a \times b = a$, then $b = 1$
- 48) If $a \div b = a$, then $b = 1$
- 49) If $X = |-4|$ and $Y = -1$, then $XY = -4$
- 50) $\frac{7}{20} = 35\%$
- 51) $\frac{21}{1000} = 2.1\%$
- 52) $|-0.4| = 40\%$

- 53) $0.\overline{2} = \frac{2}{9}$ (in the form $\frac{a}{b}$)
- 54) $\frac{5}{8} = 0.625$ (in decimal form)
- 55) The additive inverse of $\frac{-6}{-11}$ is $-\frac{6}{11}$
- 56) The additive inverse of $|- \frac{3}{5}|$ is $-\frac{3}{5}$
- 57) The additive inverse of -2.3 is 2.3
- 58) The additive inverse of $(-2)^3$ is 8
- 59) The additive identity in $\mathbb{Q}$ is 0
- 60) $60\% + \frac{3}{10} - 0.14 = 0.76$
- 61) If $\frac{a}{b}$ is a rational number , then $b \neq 0$
- 62) The multiplicative identity in $\mathbb{Q}$ is 1
- 63) The multiplicative inverse of $\frac{3}{7}$ is $\frac{7}{3}$
- 64) The multiplicative inverse of $-\frac{4}{9}$ is $-\frac{9}{4}$
- 65) The multiplicative inverse of $-3\frac{1}{2}$ is $-\frac{2}{7}$
- 66) The multiplicative inverse of -3 is $-\frac{1}{3}$
- 67) The multiplicative inverse of 0.5 is $\frac{10}{5} = 2$
- 68) The multiplicative inverse of 1 is 1
- 69) The multiplicative inverse of -1 is -1
- 70) The multiplicative inverse of $|- \frac{3}{5}|$ is $\frac{5}{3}$
- 71) The multiplicative inverse of 60% is $\frac{5}{3}$
- 72) The rational number $\frac{a-1}{5}$ has a multiplicative inverse if $a \neq 1$
- 73) The rational number that does not have a multiplicative inverse is 0
- 74) The result of subtracting $\frac{1}{7}$ from $\frac{8}{7} = 1$
- 75) $1 \div \frac{4}{9} = \frac{9}{4} = 2\frac{1}{4}$
- 76) $-\frac{4}{7} \times 1 = -\frac{4}{7}$
- 77) $2\frac{3}{5} \times \frac{5}{13} = 1$
- 78) $4 \times -\frac{5}{4} = -5$

79) $\frac{1}{4} \times 25\% = \frac{1}{16}$

80) $-\frac{4}{9} \times -\frac{9}{4} = 1$

81) $\frac{5}{4} \times 0.8 = 1$

82) If $\{5, Y\} = \{7, X\}$, then $X = 5$ and $Y = 7$

83) If $X \in \{5, 3, 10\}$, X is a prime factor of 6 then $X = 3$

84) If $\{6, Y + 2\} = \{3, X - 2\}$, then $X = 8$ and $Y = 1$

85) If $A \subset B$, then $A \cap B = A$, $A \cup B = B$

86) If $A = B$, then $A \cap B = A$ or B , $A \cup B = A$ or B

87) $A \cap \emptyset = \emptyset$

88) $\emptyset \cup X = X$

89) $A \cap A = A$

90) If $X \cap Y = Y$, then $Y \subset X$

Q3 Answer the following :-

- 1) Seif bought 8 apples for 60 L.E. , how many apples of the same type can he buy for 105 L.E. ?

14 apples

- 2) $\frac{3}{4}$ liter of milk costs 24 pounds , how much would $1\frac{3}{4}$ liters cost ?

56 pounds

- 3) Yara reads 15 pages in 50 minutes , what is the time in hours that she will take to read a book of 180 pages if she reads at the same rate ?

600 min = 10 hours

- 4) A car uses 5 liters of petrol to cover a distance of 40 km , how much petrol would the car to cover the distance 128 km if it travel at the same rate ?

16 litres

- 5) A man wants to divide 8,000 LE. among his three sons in the ratio of 1 : 2 : 5 , find the ratio of each one .

1st : 2nd : 3rd : sum

1 : 2 : 5 : 8

..... : : : 8000

$$\text{Share of 1}^{\text{st}} = \frac{1 \times 8000}{8} = 1000 \text{ LE}$$

$$\text{Share of 2}^{\text{nd}} = \frac{2 \times 8000}{8} = 2000 \text{ LE}$$

$$\text{Share of 3}^{\text{rd}} = \frac{5 \times 8000}{8} = 5000 \text{ LE}$$



- 6) A sum of money was divided among three persons in the ratio of 4 : 2 : 1 , if the share of the first person exceeds the share of the third person by 900 LE , find the share of each one.

1st : 2nd : 3rd : different

4 : 2 : 1 : 3

..... : : : 900

$$\text{Share of 1}^{\text{st}} = \frac{4 \times 900}{3} = 1200 \text{ LE}$$

$$\text{Share of 2}^{\text{nd}} = \frac{2 \times 900}{3} = 600 \text{ LE}$$

$$\text{Share of 3}^{\text{rd}} = \frac{1 \times 900}{3} = 300 \text{ LE}$$

Note

the difference between

$$3^{\text{rd}} \text{ and } 1^{\text{st}} = 4 - 1 = 3$$

- 7) Seif earns twice as much as Marwan , if the sum of their wages is 36,000 LE. , what is the wage for each of them ?

Seif : Marwan : sum

2 : 1 : 3

..... : : 36,000

$$\text{Share of Seif} = \frac{2 \times 36,000}{3} = 24,000 \text{ LE}$$

$$\text{Share of Marwan} = \frac{1 \times 36,000}{3} = 12,000 \text{ LE}$$

- 8) A watch was offered with a discount rate is 25% off during a sale , if the price of the watch was 720 LE , what is the price of the watch after the discount ?

Price before : discount : price after

100% : 25% : 75%

720 : :

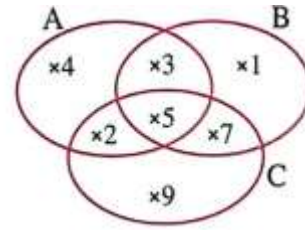
$$\text{Price after} = \frac{720 \times 75}{100} = 540 \text{ LE}$$

9) From the opposite venn diagram , find

$$A \cap B = \{3, 5\}$$

$$A \cap B \cap C = \{5\}$$

$$C \cup B = \{1, 2, 3, 5, 7, 9\}$$



10) Use the properties of addition & multiplication to find :-

a) $-5 + (-13) + 5$

$$\begin{aligned} &= -5 + 5 - 13 && \text{(commutative)} \\ &= (-5 + 5) - 13 && \text{(associative)} \\ &= 0 - 13 && \text{(add. inverse)} \\ &= -13 && \text{(add. identity)} \end{aligned}$$

c) $(-2) \times (-25) \times (-50) \times 4$

$$\begin{aligned} &= -2 \times -50 \times 4 \times -25 && \text{(commutative)} \\ &= (-2 \times -50) \times (4 \times -25) && \text{(associative)} \\ &= 100 \times -100 = -10,000 \end{aligned}$$

e) $3 \times (-2) + 3 \times 5$ (distributive)

$$\begin{aligned} &= 3 \times (-2 + 5) \\ &= 3 \times 3 = 9 \end{aligned}$$

g) $32 \times 18 - 32 \times 34 + 32 \times 17$

(distributive)

$$\begin{aligned} &= 32 \times (18 - 34 + 17) \\ &= 32 \times 1 = 32 \end{aligned}$$

b) $25 + (-8) + (-25) + 7$

$$\begin{aligned} &= 25 + (-25) + (-8) + 7 && \text{(commutative)} \\ &= [25 + (-25)] + [(-8) + 7] && \text{(associative)} \\ &= 0 + (-1) && \text{(add. identity)} \\ &= -1 \end{aligned}$$

d) $50 \times (-45) \times 2$

$$\begin{aligned} &50 \times 2 \times (-45) && \text{(commutative)} \\ &(50 \times 2) \times (-45) && \text{(associative)} \\ &100 \times (-45) = -4,500 \end{aligned}$$

f) 15×99 (distributive)

$$\begin{aligned} &= 15 \times (100 - 1) \\ &= (15 \times 100) - (15 \times 1) \\ &= 1,500 - 15 = 1,485 \end{aligned}$$

h) -7×102

(distributive)

$$\begin{aligned} &= -7 \times (100 + 2) \\ &= (-7 \times 100) + (-7 \times 2) \\ &= -700 + (-14) = -714 \end{aligned}$$

i) $\frac{3}{4} + \frac{1}{2} + \frac{1}{4}$

$$= \frac{3}{4} + \frac{1}{4} + \frac{1}{2} \quad (\text{commutative})$$

$$= \left(\frac{3}{4} + \frac{1}{4}\right) + \frac{1}{2} \quad (\text{associative})$$

$$= \frac{4}{4} + \frac{1}{2}$$

$$= 1 + \frac{1}{2} = 1\frac{1}{2}$$

j) $\frac{-4}{10} + \frac{1}{4} + \frac{2}{10} + \frac{-1}{4}$

$$= \frac{2}{7} + \frac{3}{4} + \frac{5}{7} + \frac{1}{4} \quad (\text{commutative})$$

$$= \left(\frac{2}{7} + \frac{3}{4}\right) + \left(\frac{5}{7} + \frac{1}{4}\right) \quad (\text{associative})$$

$$= 1 + 1$$

$$= 2$$

k) $\frac{5}{12} \times 3 + \frac{5}{12} \times 9$ (distributive)

$$\frac{5}{12} \times (3 + 9)$$

$$\frac{5}{12} \times 12 = 5$$

l) $-\frac{4}{9} \times 8 + 9 \times \left(\frac{-4}{9}\right) + \frac{-4}{9}$

(distributive)

$$= -\frac{4}{9} \times (8 + 9 + 1)$$

$$= -\frac{4}{9} \times 18 = -8$$

11) If $a = 15$ and $b = -5$, find the result of the following :-

b) $|9 - a| = 6$

b) $a - b = 20$

c) $|3 - b| = 8$

d) $b - (-a) = 10$

12) If $a = 1\frac{3}{4}$, $b = \frac{12}{7}$ and $c = \frac{2}{3}$, find the numerical value of the following :-

a) $abc + 3$

$$1\frac{3}{4} \times \frac{12}{7} \times \frac{2}{3} + 3 = 5$$

b) $ab - c$

$$1\frac{3}{4} \times \frac{12}{7} - \frac{2}{3} = 2\frac{1}{3}$$

- 13)** A rectangle has an area of $50\frac{3}{4} \text{ cm}^2$ and a length of $9\frac{2}{3} \text{ cm}$, calculate the width .

$$\text{Width} = 50\frac{3}{4} \div 9\frac{2}{3} = 5\frac{1}{4} \text{ cm}$$

- 14)** Find the area of a triangle with a base length $\frac{1}{4} \text{ m}$ and the corresponding height of $1\frac{1}{2} \text{ m}$.

$$\text{Area} = \frac{1}{2} \times \frac{1}{4} \times 1\frac{1}{2} = \frac{3}{16}$$

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

